SCAG
POWER EQUIPMENT

OPERATOR'S MANUAL

Turf Tiger

Model: STT61V-31EFI-SS
STT-31EFI-SS

Congratulations on owning a Scag mower! This manual contains the operating instructions and safety information for your Scag mower. Reading this manual can provide you with assistance in maintenance and adjustment procedures to keep your mower performing to maximum efficiency. The specific models that this book covers are listed on the inside cover. Before operating your machine, please read all the information enclosed.

© 2011
Scag Power Equipment
Division of Metalcraft of Mayville, Inc.

PART NO. 03275
PRINTED 1/2011
PRINTED IN USA

⚠ WARNING

FAILURE TO FOLLOW SAFE OPERATING PRACTICES MAY RESULT IN SERIOUS INJURY OR DEATH.

- Read this manual completely as well as other manuals that came with your mower.
- DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution.
- Under no circumstances should the machine be operated on slopes greater than 15 degrees. ALWAYS FOLLOW OSHA APPROVED OPERATION.
- Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
- DO NOT mow on wet grass. Wet grass reduces traction and steering control.
- Keep all shields in place, especially the grass discharge chute.
- Before performing any maintenance or service, stop the machine and remove the spark plug wire and ignition key.
- If a mechanism becomes clogged, stop the engine before cleaning.
- Keep hands, feet and clothing away from power-driven parts.
- Keep others off the mower (only one person at a time)

REMEMBER - YOUR MOWER IS ONLY AS SAFE AS THE OPERATOR!

HAZARD CONTROL AND ACCIDENT PREVENTION ARE DEPENDENT UPON THE AWARENESS, CONCERN, PRUDENCE, AND PROPER TRAINING OF THE PERSONNEL INVOLVED IN THE OPERATION, TRANSPORT, MAINTENANCE, AND STORAGE OF THE EQUIPMENT.

This manual covers the operating instructions and illustrated parts list for:		
STT61V-31EFI-SS	with a serial number of	F6100001 to F6199999
STT-31EFI-SS	with a serial number of	F6600001 to F6699999
Always use the entire serial number listed on the serial number tag when referring to this product.		

Table of Contents

SECTION 1 - GENERAL INFORMATION....1
1.1 INTRODUCTION....1
1.2 DIRECTION REFERENCE....1
1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS....1
1.4 SYMBOLS....2
SECTION 2 - SAFETY INFORMATION....3
2.1 INTRODUCTION....3
2.2 SIGNAL WORDS....3
2.3 BEFORE OPERATION CONSIDERATIONS....3
2.4 OPERATION CONSIDERATIONS....4
2.5 ROLL-OVER PROTECTION SYSTEM....6
2.6 MAINTENANCE CONSIDERATIONS & STORAGE....8
2.7 USING A SPARK ARRESTOR....8
2.8 SPARK IGNITION SYSTEM....8
2.9 SAFETY AND INSTRUCTIONAL DECALS....9
SECTION 3 - SPECIFICATIONS....10
3.1 ENGINE....10
3.2 ELECTRICAL....10
3.3 POWER HEAD....10
3.4 CUTTER DECK....11
3.5 HYDRAULIC SYSTEM....11
3.6 WEIGHTS AND DIMENSIONS....11
3.7 PRODUCTIVITY....11
SECTION 4 - OPERATING INSTRUCTIONS....12
4.1 CONTROLS AND INSTRUMENT IDENTIFICATION....12
4.2 SAFETY INTERLOCK SYSTEM....13
4.3 INITIAL RUN-IN PROCEDURES....14
4.4 STARTING THE ENGINE....14
4.5 GROUND TRAVEL AND STEERING....14
4.6 ENGAGING THE DECK DRIVE (CUTTER BLADES)....15
4.7 HILLSIDE OPERATION....16
4.8 PARKING THE MOWER....16
4.9 AFTER OPERATION....16
4.10 REMOVING CLOGGED MATERIAL....16
4.11 MOVING MOWER WITH ENGINE STOPPED....17
4.12 RECOMMENDATIONS FOR MOWING....17
4.13 ADJUSTING CUTTING HEIGHT....17
4.14 ADJUSTING THE STEERING LEVERS....18
4.15 ADJUSTING THE HEIGHT ADJUST PEDAL....18
4.16 TOWING (OPTIONAL HITCH ACCESSORY)....19
SECTION 5 - TROUBLESHOOTING CUTTING CONDITIONS....20

SECTION 6 - ADJUSTMENTS 23
6.1 PARKING BRAKE ADJUSTMENT 23
6.2 TRAVEL ADJUSTMENTS 24
6.3 THROTTLE CONTROL AND CHOKE ADJUSTMENTS 25
6.4 BELT ADJUSTMENT 25
6.5 BELT ALIGNMENT 26
6.6 CUTTER DECK ADJUSTMENTS 26
6.7 CUSTOM-CUT BAFFLE ADJUSTMENT 28
6.8 ELECTRIC CLUTCH ADJUSTMENT 29
SECTION 7 - MAINTENANCE 30
7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS 30
7.2 LUBRICATION 31
7.3 HYDRAULIC SYSTEM 33
7.4 ENGINE OIL 34
7.5 ENGINE FUEL SYSTEM 34
7.6 ENGINE AIR CLEANER 35
7.7 BATTERY 36
7.8 DRIVE BELTS 37
7.9 CUTTER BLADES 37
7.10 TIRES 38
7.11 CUTTER DECK GEARBOX 39
7.12 COOLING SYSTEM 39
7.13 BODY, DECK, AND UPHOLSTERY 40
SECTION 8 - ILLUSTRATED PARTS LIST 41
8.1 SCAG APPROVED ATTACHMENTS AND ACCESSORIES 41
61V & 72VS CUTTER DECKS 42
CUTTER DECK CONTROLS 44
SHEET METAL COMPONENTS 46
STT ROLL-OVER PROTECTION SYSTEM 48
STT SUSPENSION SEAT 50
DECK DRIVE COMPONENTS 52
ENGINE & ATTACHING PARTS - 31HP-EFI KOHLER 54
BRAKE AND STEERING COMPONENTS 56
STT HYDRAULIC SYSTEM 58
STT-31EFI FUEL SYSTEM - EPA PHASE 3 60
BDP-16A HYDRAULIC PUMP ASSEMBLY WITH COOLING FAN 62
ELECTRICAL SYSTEM (31HP-EFI KOHLER) 64
STT REPLACEMENT DECALS AND INFORMATION PLATES - ALL MODELS 66
ELECTRICAL SCHEMATIC (KOHLER 31HP - EFI) 68
LIMITED WARRANTY - COMMERCIAL EQUIPMENT ..... Inside Back Cover

GENERAL INFORMATION

1.1 INTRODUCTION

Your mower was built to the highest standards in the industry. However, the prolonged life and maximum efficiency of your mower depends on you following the operating, maintenance and adjustment instructions in this manual.

If additional information or service is needed, contact your Scag Power Equipment Dealer.

We encourage you to contact your dealer for repairs. All Scag dealers are informed of the latest methods to service this equipment and provide prompt and efficient service in the field or at their service shop. They carry a full line of Scag service parts.

- IMPORTANT -

The replacement of any part on this product by other than the manufacturer's authorized replacement part may adversely affect the performance, durability or safety of this product.

Use of other than original Scag replacement parts will void the warranty.

When ordering parts, always give the model and serial number of your mower. The serial number plate is located where shown in Figure 1-1.

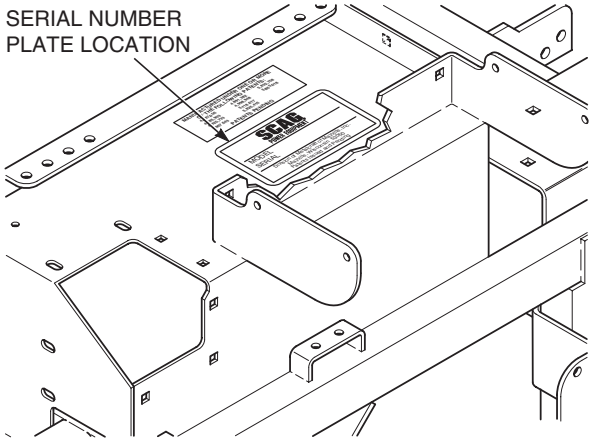


Figure 1-1. Mower Serial Number Plate Location

USE ONLY SCAG APPROVED ATTACHMENTS AND ACCESSORIES.

Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine. See Section 8-1.

⚠ WARNING

For pictorial clarity, some illustrations and figures in this manual may show shields, guards or plates open or removed. Under no circumstances should your mower be operated without these devices in place.

All information is based upon product information available at the time of approval for printing. Scag Power Equipment reserves the right to make changes at any time without notice and without incurring any obligation.

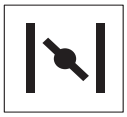
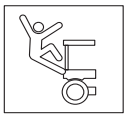
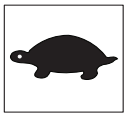
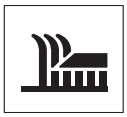
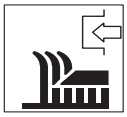
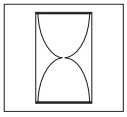
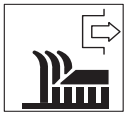
1.2 DIRECTION REFERENCE

The “Right” and “Left”, “Front” and “Rear” of the machine are referenced from the operator’s right and left when seated in the normal operating position and facing the forward travel direction.

1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS

The detail servicing and repair of the engine, hydraulic pumps and gearboxes are not covered in this manual; only routine maintenance and general service instructions are provided. For service of these components during the limited warranty period, it is important to contact your Scag dealer or find a local authorized servicing agent of the component manufacturer. Any unauthorized work done on these components during the warranty period may void your warranty.

1.4 SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Choke		Transmission
	Parking Brake		Spinning Blade
	On/Start		Spring Tension on Idler
	Off/Stop		Oil
	Falling Hazard		Thrown Object Hazard
	Fast		Slow
	Continuously Variable - Linear		Cutting Element - Basic Symbol
	Pinch Point		Cutting Element - Engage
	Hour meter/Elapsed Operating Hours		Cutting Element - Disengage
	Thrown Object Hazard Keep Bystanders Away		Read Operator's Manual

SAFETY INFORMATION

2.1 INTRODUCTION

Your mower is only as safe as the operator. Carelessness or operator error may result in serious bodily injury or death. Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance and storage of the equipment. Make sure every operator is properly trained and thoroughly familiar with all of the controls before operating the mower. The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

READ THIS OPERATOR'S MANUAL BEFORE ATTEMPTING TO START YOUR MOWER.

A replacement manual is available from your authorized Scag Service Dealer or by contacting Scag Power Equipment, Service Department at P.O. Box 152, Mayville, WI 53050 or contact us via the Internet at www.scag.com. The manual for this machine can be downloaded by using the model and serial number or use the contact form to make your request. Please indicate the complete model and serial number of your Scag product when requesting replacement manuals.

2.2 SIGNAL WORDS

This symbol means **"Attention! Become Alert! Your Safety is Involved!"** The symbol is used with the following signal words to attract your attention to safety messages found on the decals on the machine and throughout this manual. The message that follows the symbol contains important information about safety. To avoid injury and possible death, carefully read the message! Be sure to fully understand the causes of possible injury or death.

SIGNAL WORD:

It is a distinctive word found on the safety decals on the machine and throughout this manual that alerts the viewer to the existence and relative degree of the hazard.

⚠ DANGER

The signal word "DANGER" denotes that an extremely hazardous situation exists on or near the machine that could result in high probability of death or irreparable injury if proper precautions are not taken.

⚠ WARNING

The signal word "WARNING" denotes that a hazard exists on or near the machine that can result in injury or death if proper precautions are not taken.

⚠ CAUTION

The signal word "CAUTION" is a reminder of safety practices on or near the machine that could result in personal injury if proper precautions are not taken.

Your safety and the safety of others depends significantly upon your knowledge and understanding of all correct operating practices and procedures of this machine.

2.3 BEFORE OPERATION CONSIDERATIONS

1. NEVER allow children to operate this riding mower. Do not allow adults to operate this machine without proper instructions.
2. Do not mow when children and/or others are present. Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator. Be alert and turn machine off if a child enters the area.
3. DO NOT allow children to ride or play on the machine, it is not a toy.
4. Clear the area to be mowed of objects that could be picked up and thrown by the cutter blades.
5. DO NOT carry passengers.
6. DO NOT operate the machine under the influence of alcohol or drugs.

7. If the operator(s) or mechanic(s) cannot read English or Spanish, it is the owner's responsibility to explain this material to them.
8. DO NOT wear loose fitting clothing. Loose clothing, jewelry or long hair could get tangled in moving parts. Do not operate the machine wearing shorts; always wear adequate protective clothing including long pants. Wearing safety glasses, safety shoes and a helmet is advisable and is required by some local ordinances and insurance regulations.

⚠ WARNING

Always wear hearing protection. Operating this machine over prolonged periods of time can cause loss of hearing.

9. Keep the machine and attachments in good operating condition. Keep all shields and safety devices in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating the machine.

⚠ WARNING

This machine is equipped with an interlock system intended to protect the operator and others from injury. This is accomplished by preventing the engine from starting unless the deck drive is disengaged, the parking brake is on, the steering control levers are in the neutral position and the operator is in the seat. The system shuts off the engine if the operator leaves the seat with the deck drive engaged and/or the steering control levers are not in the neutral position and the parking brake is not engaged. Never operate equipment with the interlock system disconnected or malfunctioning.

10. Be sure the interlock switches are functioning correctly.
11. Fuel is flammable; handle it with care. Fill the fuel tank outdoors. Never fill it indoors. Use a funnel or spout to prevent spillage. Clean up any spillage before starting the engine.
12. DO NOT add fuel to a running or hot engine. Allow the engine to cool for several minutes before adding fuel. Never fuel indoors or inside enclosed trailers.
13. Keep flammable objects (cigarettes, matches, etc.), open flames and sparks away from the fuel tank and fuel container. Use only approved containers.
14. See Section 7.5 ENGINE FUEL SYSTEM for fueling procedure.
15. Equipment must comply with the latest requirements per SAE J137 and/or ANSI/ASAE S279 when driven on public roads.

- NOTE -

If the mower is driven on public roads, it must comply with state and local ordinances as well as SAE J137 and/or ANSI / ASAE S279 requirements. Contact your local authorities for regulations and equipment requirements.

16. Do not operate without the side discharge chute installed and in the down position or with an optional grass catcher or mulch plate completely installed.
17. Check the blade mounting bolts at frequent intervals for proper tightness.
18. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before starting the machine.

2.4 OPERATION CONSIDERATIONS

1. Know the function of all controls and how to stop quickly.

⚠ WARNING

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-4, Page 7 to determine approximate slope of area to be mowed. ALWAYS FOLLOW OSHA APPROVED OPERATION.

2. Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing directions on slopes.

3. Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
4. To prevent tipping or loss of control, start and stop smoothly, avoid unnecessary turns and travel at reduced speed.
5. When using any attachment, never direct the discharge of material toward bystanders or allow anyone near the machine while in operation.
6. Before attempting to start the engine, with the operator in the seat, disengage power to the cutter deck, place the steering control levers in the neutral position and engage the parking brake.
7. If the mower discharge ever plugs, shut off the engine, remove the ignition key, and wait for all movement to stop before removing the obstruction.

⚠ WARNING

DO NOT use your hand to dislodge the clogged discharge chute. Use a stick or other device to remove clogged material after the engine has stopped running and the blades have stopped turning.

8. Be alert for holes, rocks, roots and other hidden hazards in the terrain. Keep away from any drop-offs. Beware of overhead obstructions (low limbs, etc.), underground obstacles (sprinklers, pipes, tree roots, etc.). Cautiously enter a new area. Be alert for hidden hazards.
9. Disengage power to cutter deck before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower. If you must mow in reverse, maintain a constant lookout to the rear of the machine and mow slowly.
10. DO NOT turn sharply. Use care when backing up.
11. Disengage power to cutter deck before crossing roads, walks or gravel drives.
12. Mow only in daylight or good artificial light.
13. NEVER raise the deck with the blades engaged.
14. Take all possible precautions when leaving the machine unattended, such as disengaging the mower, lowering the attachments, setting the parking brake, stopping the engine, and removing the key.
15. Disengage power to the attachments when transporting or when not in use.
16. The machine and attachments should be stopped and inspected for damage after striking a foreign object, and damage should be repaired before restarting and operating the machine.

⚠ CAUTION

Do not touch the engine or the muffler while the engine is running or immediately after stopping. These areas may be hot enough to cause a burn.

⚠ DANGER

DO NOT run the engine inside a building or a confined area without proper ventilation. Exhaust fumes are hazardous and contain carbon monoxide which can cause brain injury and death.

17. Keep hands and feet away from cutter blades and moving parts. Contact can injure.
18. Transport the mower using a heavy duty trailer or truck. Insure the trailer or truck has all of the necessary lighting and markings as required by laws, codes, and ordinances. Secure a trailer with a safety chain.
19. Be cautious when loading and unloading onto trailers or trucks. Use only a full width ramp. Ramp angle should be no more than 15 degrees. See Figure 2-4, Page 7 to determine approximate slope of the ramp. Back up the ramp and drive down forward.
20. When transporting the mower, make sure the park brake is engaged, the steering control levers are in the neutral position, the engine is off with the key removed, and the wheels have been blocked.
21. Tie the mower down securely using straps, chains, cable, or ropes. Both front and rear straps must be directed down and outward from machine.
22. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
23. NEVER leave the machine running unattended.

2.5 ROLL-OVER PROTECTION SYSTEM

⚠ WARNING

Keep the roll bar in the raised and locked position and the seat belt securely fastened during operation. Failure to do so could cause serious injury or loss of life.

This mower has been designed for good traction and stability under normal mowing conditions. However, caution must be used when traveling on slopes, especially when the grass is wet. Do not mow on wet grass. Wet grass reduces traction and steering control.

Any or all parts of the Roll-Over Protection System MUST NOT be removed. Failure to adhere to this guideline could result in injury or death.

⚠ WARNING

There is no roll-over protection when the roll bar is in the down position.

Lower the roll bar only when absolutely necessary.

Raise the roll bar as soon as clearance permits.

DO NOT wear the seat belt when the roll bar is in the down position.

ALWAYS wear seat belt when roll bar is in the up position.

Operate the machine smoothly, no sudden turns, starts or stops.

Check the area carefully before mowing for proper overhead clearance (i.e. branches, doorways, etc.).

DO NOT contact any overhead object with the roll bar.

Lower the roll bar only when absolutely necessary.

1. To lower the roll bar, remove the hairpin cotter pins and remove the two (2) lock pins. See Figure 2-2.
2. Lower the roll bar to the down position.
3. To raise the roll bar, lift the bar to the upright position.
4. Install the two (2) lock pins through the hole, secure with the two (2) hairpin cotter pins. See Figure 2-2.

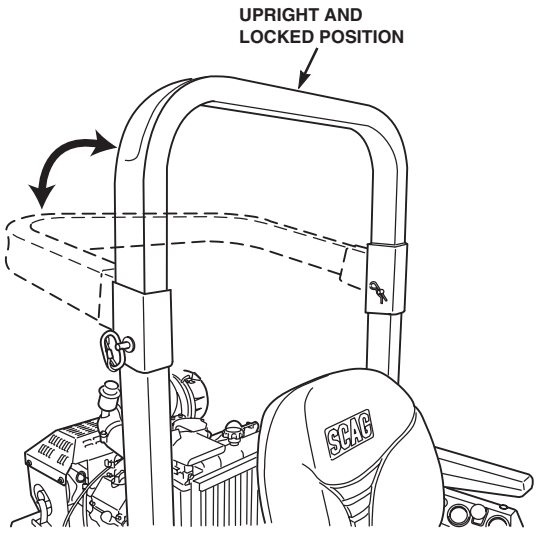


Figure 2-1. Foldable Roll-Over Protection System

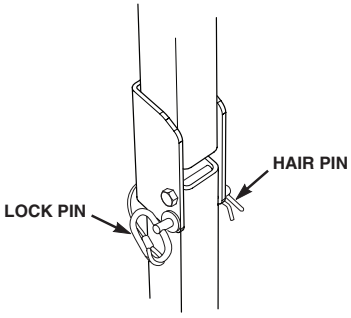


Figure 2-2. ROPS Hinge

The potential exposure of the seat belt to severe environmental conditions make it crucial to inspect the seat belt system regularly.

It is recommended that the seat belt be inspected on a daily basis for signs of damage. Any seat belt system that shows cuts, fraying, extreme or unusual wear, significant discoloration due to UV exposure, dirt or stiffness, abrasion to the seat belt webbing, or damage to the buckle, latch plate, hardware or any other obvious problem should be replaced immediately.

⚠ WARNING

Failure to properly inspect and maintain the seat belt can cause serious injury or loss of life.

1. Check the full length of the seat belt webbing for cuts, wear, fraying, dirt and stiffness. See Figure 2-3.
2. Check the seat belt webbing in areas exposed to ultra violet rays from the sun or extreme dust or dirt. If the original color of the webbing in these areas is extremely faded and/or is packed with dirt, the physical strength of this webbing may have deteriorated. If this condition exists, replace the seat belt system.
3. Check the buckle and latch for proper operation and determine if the latch plate is excessively worn, deformed, or if the buckle is damaged or cracked. See Figure 2-3.

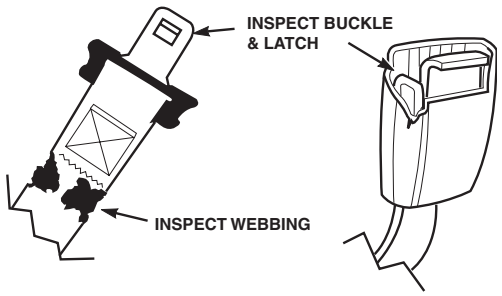


Figure 2-3. Seat Belt Inspection

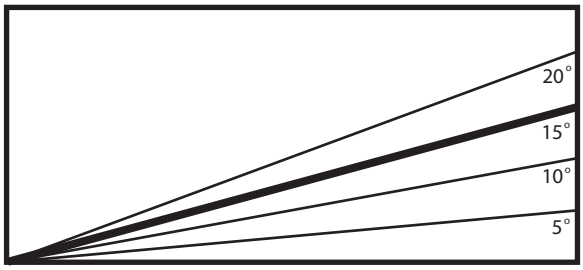


Figure 2-4. Slope Angle Graph

⚠ WARNING

Reduce speed when turning, operating on slopes, slick or wet surfaces. Allow extra distance to stop.

Stay off of slopes too steep for safe operation. To check a slope, attempt to back up it (with the cutter deck down). If the machine can not back up the slope without the wheels slipping, do not operate the machine on this slope. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-4 to determine approximate slope.

DO NOT mow near drop-offs, ditches or embankments. The machine could suddenly roll over if a wheel goes over the edge or if the edge caves in.

Operate the machine smoothly, no sudden turns, starts or stops on a slope.

NEVER tow on slopes. The weight of the towed equipment may cause loss of traction and loss of control.

DO NOT permit untrained personnel to operate the machine.

Be cautious when loading and unloading onto trailers or trucks.

Use only a full width ramp.

Ramp angle should be no more than 15 Degrees. See Figure 2-4 to help determine approximate slope.

Back up the ramp and drive down forward.

2.6 MAINTENANCE CONSIDERATIONS & STORAGE

1. Never make adjustments to the machine with the engine running unless specifically instructed to do so. If the engine is running, keep hands, feet, and clothing away from moving parts.
2. Disengage drives, lower implement, set parking brake, stop engine and remove key or disconnect spark plug wire to prevent accidental starting of the engine when servicing or adjusting the machine. Wait for all movement to stop before adjusting, cleaning or repairing.
3. Disconnect battery or remove spark plug wire before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect the positive first and the negative last.
4. Keep all nuts, bolts and screws tight, to ensure the machine is in safe working condition. Check blade mounting bolts frequently to be sure they are tight.
5. Do not change the engine governor settings or overspeed the engine. See the engine operator's manual for information on engine settings.
6. To reduce fire hazard, keep the cutting units, drives, muffler and engine free of grass, leaves, excessive grease, oil and dirt.
7. Park the machine on level ground and engage the parking brake.
8. NEVER allow untrained personnel to service the machine.
9. Use care when checking blades. Use a Blade Buddy, wrap the blade(s) or wear gloves and USE CAUTION when servicing blades. Only replace blades. NEVER straighten or weld blades.
10. Keep all parts in good working condition. Replace all worn or damaged decals.
11. Use jack stands to support components when required.
12. Carefully release pressure from components with stored energy.

⚠ WARNING

Hydraulic fluid is under high pressure. Keep body and hands away from pinholes or nozzles that eject hydraulic fluid under high pressure. If you need service on your hydraulic system, please see your authorized Scag dealer. If hydraulic fluid is injected into the skin, it must be surgically removed within a few hours by a doctor or gangrene may result.

13. Let the engine cool before storing.
14. DO NOT store the machine near an open flame.
15. Shut off fuel while storing or transporting.
16. DO NOT store fuel near flames or drain indoors.
17. Charge batteries in an open, well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.

2.7 USING A SPARK ARRESTOR

The engine in this machine is not equipped with a spark arrestor muffler. It is in violation of California Public Resource Code Section 4442 to use or operate this engine on or near any forest covered, brush covered or grass covered land unless the exhaust system is equipped with a spark arrestor meeting any applicable local or state laws. Other states or federal areas may have similar laws. Check with your state or local authorities for regulations pertaining to these requirements.

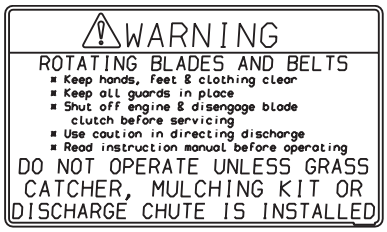
2.8 SPARK IGNITION SYSTEM

This spark ignition system complies with Canadian ICES-002.

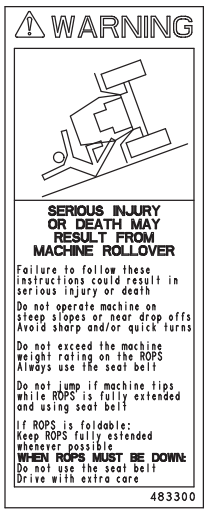
2.9 SAFETY AND INSTRUCTIONAL DECALS

483407

483402

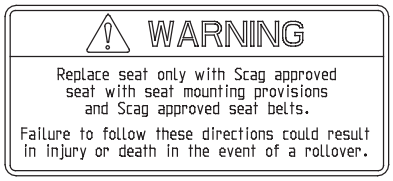

WARNING
ROTATING BLADES AND BELTS
Keep hands, feet & clothing clear
Keep all guards in place
Shut off engine & disengage blade clutch before servicing
Use caution in directing discharge
Read instruction manual before operating
DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED

483406

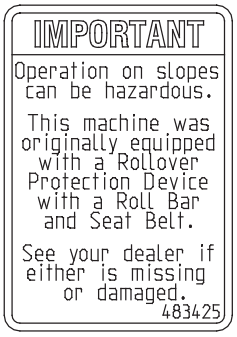

WARNING
SERIOUS INJURY OR DEATH MAY RESULT FROM MACHINE ROLLOVER
Failure to follow these instructions could result in serious injury or death
Do not operate machine on steep slopes or near drop offs Avoid sharp and/or quick turns
Do not exceed the machine weight rating on the ROPS Always use the seat belt
Do not jump if machine tips while ROPS is fully extended and using seat belt
If ROPS is foldable: Keep ROPS fully extended whenever possible
WHEN ROPS MUST BE DOWN: Do not use the seat belt Drive with extra care
483300

483300

481568


WARNING
Replace seat only with Scag approved seat with seat mounting provisions and Scag approved seat belts.
Failure to follow these directions could result in injury or death in the event of a rollover.

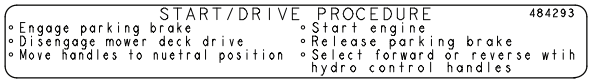
483633


IMPORTANT
Operation on slopes can be hazardous.
This machine was originally equipped with a Rollover Protection Device with a Roll Bar and Seat Belt.
See your dealer if either is missing or damaged.
483425

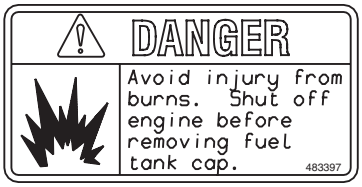
483425

WARNING
Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

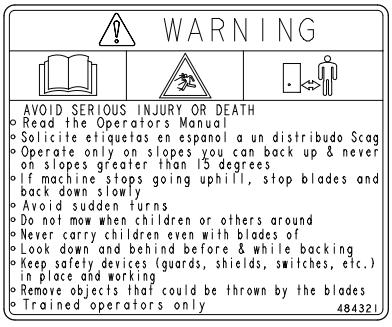
483900
(supplied with California models only)



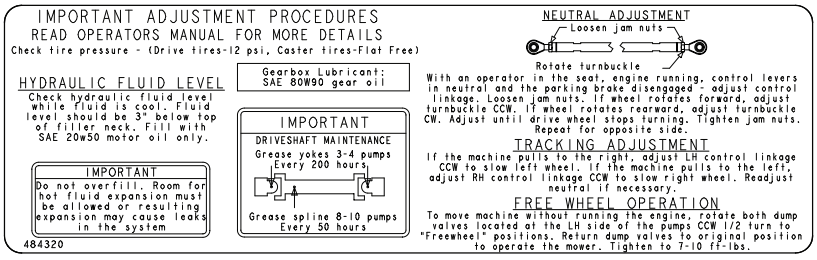
484293



483397


WARNING
AVOID SERIOUS INJURY OR DEATH
Read the Operators Manual
Solicite etiquetas en espanol a un distribudo Scag
Operate only on slopes you can back up & never on slopes greater than 15 degrees
If machine stops going uphill, stop blades and back down slowly
Avoid sudden turns
Do not mow when children or others around
Never carry children even with blades of
Look down and behind before & while backing
Keep safety devices (guards, shields, switches, etc.) in place and working
Remove objects that could be thrown by the blades
Trained operators only
484321

484321


IMPORTANT ADJUSTMENT PROCEDURES
READ OPERATORS MANUAL FOR MORE DETAILS
Check tire pressure - (Drive tires-12 psi, Caster tires-Flat Free)
HYDRAULIC FLUID LEVEL
Check hydraulic fluid level while fluid is cool. Fluid level should be 3" below top of filler neck. Fill with SAE 20w50 motor oil only.
IMPORTANT
Do not overfill. Room for hot fluid expansion must be allowed or resulting expansion may cause leaks in the system
Gearbox Lubricant: SAE 80W90 gear oil
IMPORTANT
DRIVESHAFT MAINTENANCE
Grease yokes 3-4 pumps Every 200 hours
Grease spline 8-10 pumps Every 50 hours
NEUTRAL ADJUSTMENT
Loosen jam nuts
Rotate turnbuckle
With an operator in the seat, engine running, control levers in neutral and the parking brake disengaged - adjust control linkage. Loosen jam nuts. If wheel rotates forward, adjust turnbuckle CCW. If wheel rotates rearward, adjust turnbuckle CW. Adjust until drive wheel stops turning. Tighten jam nuts. Repeat for opposite side.
TRACKING ADJUSTMENT
If the machine pulls to the right, adjust LH control linkage CCW to slow left wheel. If the machine pulls to the left, adjust RH control linkage CCW to slow right wheel. Readjust neutral if necessary.
FREE WHEEL OPERATION
To move machine without running the engine, rotate both dump valves located at the LH side of the pumps CCW 1/2 turn to "Freewheel" positions. Return dump valves to original position to operate the mower. Tighten to 7-10 ft-lbs.
484320

484320

390S0150i

SPECIFICATIONS

3.1 ENGINE

General Type ..... Heavy Duty Industrial/Commercial Gasoline
Brand ..... Kohler
Model ..... Kohler Aegis LH775S (PS-LH775-3015)
Horsepower ..... 31HP at 3600 RPM
Type ..... 4-Cycle, Twin Cylinder, Liquid-Cooled, Electronic Fuel Injected Horizontal Shaft, OHV
Displacement ..... 748 cc.
Cylinders ..... 2 with Cast-Iron Sleeves
Valve Group ..... Hydraulic Valve Lifters
Governor ..... Mechanical Type with Variable Speed Control Set At 3800 RPM
Idle Speed ..... 1500 RPM Kohler
Fuel Pump ..... Electric Fuel Pump with In-Line Fuel Filter
Carburation ..... Electronic Fuel Injection
Fuel ..... Non-Leaded Gasoline with a Minimum Octane Rating of 87
Oil Pump ..... Full Pressure w/Full-Flow Filter
Starter ..... Electric Starting with Solenoid Shift
Cooling Group ..... Heavy-Duty Radiator, High-Flow Engine Cooling Fan, Water Pump
Air Intake ..... Large Capacity 2-Stage Canister Air Filter

3.2 ELECTRICAL

Battery ..... 12 volt "Maintenance Free" Sealed Battery (300 CCA)
Charging System ..... Alternator
Charging Output ..... 12 Volt, 20 Amp
System Polarity ..... Negative Ground
Interlock Switches ..... Seat, Neutral Control, Mower Engagement (BBC), Parking Brake
Instrument Panel ..... Volt Meter, Key Switch, Throttle Lever, BBC Switch, Fuses and Safety Start module, Water Temperature Gauge
Fuses ..... Two (2) 20 Amp

3.3 POWER HEAD

Drive System ..... Hydraulic Drive with Two Variable Displacement Pumps and Two Cast-Iron High Torque Motors
Hydrostatic Pumps ..... Two Hydro-Gear™ 16 cc/rev. Pumps with Dump Valves
Belts ..... Kevlar cord. Self-adjusting, Self-tightening
Drive Wheel Motors ..... Two Parker Cast-Iron High Torque Motors
Steering/Travel Control ..... Twin Lever Fingertip Steering Control with Individual Control to Each Wheel with Gas Spring Dampers
Parking Brake ..... Lever Actuated Linkage to Brakes on Both Drive Wheel Axles
Wheels:
- (2) Front Caster ..... 13 X 6.00 Flat-Free
- (2) Drive ..... 24 x 12 x 12 Four-Ply Pneumatic Tubeless, Radius Edge

Tire Pressure:
- Front Caster ..... Flat Free
- Drive ..... 12 PSI

Fuel Tank ..... 8-1/2-Gallon Seamless Polyethylene Tank with Large opening and Fuel Gauge Fill Cap
Seat ..... Padded, Thick Cushion with tall back rest
Travel Speed:
- Forward ..... 0 up to 12 MPH
- Reverse ..... 0 up to 6 MPH

-NOTE- The machine will travel at 12 mph for transport purposes. For best cutting performance the forward travel speed should be adjusted depending upon the cutting conditions.

3.4 CUTTER DECK

Type ..... Floating, Adjustable, Anti-scalping, Hybrid Design Combines Out-front and Belly-mount Designs
Construction ..... 10-gauge steel reinforced with 7-gauge (3/16") Support Plate. 7-gauge (3/16") deck skirt.
True Cutting Width:
61V ..... 61" (155.0 cm)
72VS ..... 72" (182.9 cm)
Cutting Height Adjustment ..... Foot-Operated Lever Adjustment from Operator's Seat, 1.00" to 6.00" in 1/4"increments
Cutter Blades ..... .197 or .250 Thick, Milled Edge, Wear Resistant Marbain™
61V ..... Three (3) 21" blades
72VS ..... Three (3) 24.5" blades
Blade Engagement ..... Electric Blade Engagement Clutch with Control Panel Switch Connected to the Cutter Deck Gearbox through a Drive Shaft.
Discharge Opening ..... Extra Wide Discharge Opening with Spring-Loaded Discharge Chute and Turbo Baffle
Discharge Chute ..... Black, Polypropylene (Plastic), Flexible
Spindles ..... Heavy-Duty 1-1/8" Top Dimension Spindle Shaft, Cast Housing, Taper Roller Bearing, Low-Maintenance with Top Access Grease Fitting and Grease Overfill Relief Poppet
Spindle Pulleys ..... Split Steel with Easily Removed Taper Hubs
Cutter Deck Belts ..... B-Section with Kevlar Cord, Self-adjusting, Self-tightening
Electric Clutch Type ..... Ogura Heavy-Duty PTO Clutch Brake
Drive Shaft ..... Clamp Yoke Shaft With Two High Speed U-Joints

3.5 HYDRAULIC SYSTEM

Hydraulic Oil Filter ..... 10 Micron Spin-on Element Type
Hydraulic Reservoir ..... Nylon; 3 Quart Capacity

3.6 WEIGHTS AND DIMENSIONS

	SMT61V	SMT72VS
Length	87.5"	90"
Tracking Width	56"	56"
Overall Width w/chute down	73.5"	83"
Overall Width w/chute up	62"	73"
Overall Height w/ROPS up	67.5"	67.5"
Overall Height w/ROPS down	56.5"	56.5"
Operating Weight w/ROPS	1350#	1400#

3.7 PRODUCTIVITY

	SMT61V	SMT72VS
Cutting Width	61"	72"
Acres Per Day	23.7	28

The preceding chart will aid you in determining how many acres your Scag mower will cut per day. The chart is an estimate based on 8 hours per day cutting time at 6 MPH with an allowance for overlap and turns.

OPERATING INSTRUCTIONS

⚠ CAUTION

Do not attempt to operate this mower unless you have read this manual. Learn the location and purpose of all controls and instruments before you operate this mower.

4.1 CONTROLS AND INSTRUMENT IDENTIFICATION

Before operating the mower, familiarize yourself with all mower and engine controls. Knowing the location, function and operation of these controls is important for safe and efficient operation of the mower.

1. **Ignition Switch (Figure 4-1).** The ignition switch is used to start the engine and has three positions; OFF, ON, and START.
2. **Mower Deck Switch (Figure 4-1).** Used to engage and disengage the mower drive system. Pulling up on the switch will engage the deck drive. Pushing down on the switch will disengage the deck drive.
3. **Engine Throttle Control (Figure 4-1).** Used to control the engine speed. Pushing the lever forward increases engine speed. Pulling the lever back decreases engine speed. Full back position is the IDLE position. Full forward is the cutting position.
4. **Volt Meter (Figure 4-1).** Indicates the condition of the charging system. When the engine is running the needle should be toward the positive end of the meter. If the needle is toward the negative end of the meter, this indicates a discharge condition and the machine should be taken in for service.

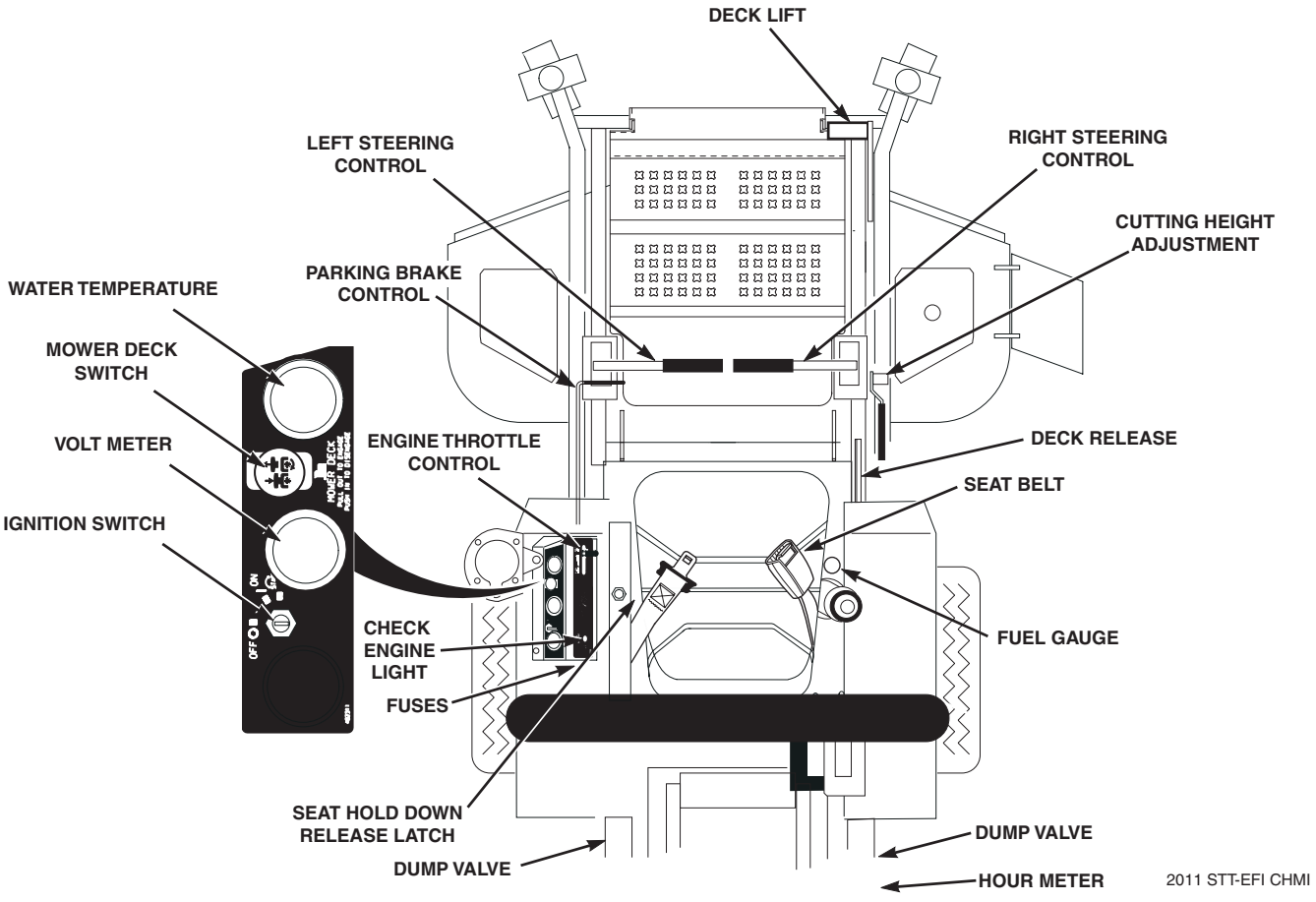


Figure 4-1. Controls and Instruments

5. **Hourmeter (Figure 4-1).** Indicates the number of hours the engine has been operated. It only operates when the engine is running. Has preset maintenance reminders for engine and hydraulic system oil changes. Will start flashing scheduled maintenance 2 hours before preset time and continue flashing until 2 hours after. Automatically resets.
6. **Fuse Holders (Figure 4-1).** Two 20-amp fuses protect the mower's electrical system. To replace fuses, pull fuse out of the socket and install a new fuse.
7. **Left Steering Control (Figure 4-1).** Used to control the mower's left wheel when traveling forward or reverse.
8. **Right Steering Control (Figure 4-1).** Used to control the mower's right wheel when traveling forward or reverse.
9. **Parking Brake Control (Figure 4-1).** Used to engage and disengage the parking brakes. Pull the lever back to engage the parking brakes. Push the lever forward to disengage the parking brakes.
10. **Fuel Gauge (Figure 4-1).** Indicates the amount of fuel in the fuel tank.
11. **Dump Valve Control Levers (Figure 4-2).** Located on the hydraulic pumps, used to "free-wheel" the mower. Rotating the levers clockwise until they stop allows the unit to move under hydraulic power. The levers must be in this position and torqued to 10 lb-ft during operation of the mower. Rotating the levers counter-clockwise allows the mower to be moved by hand (free-wheeling).

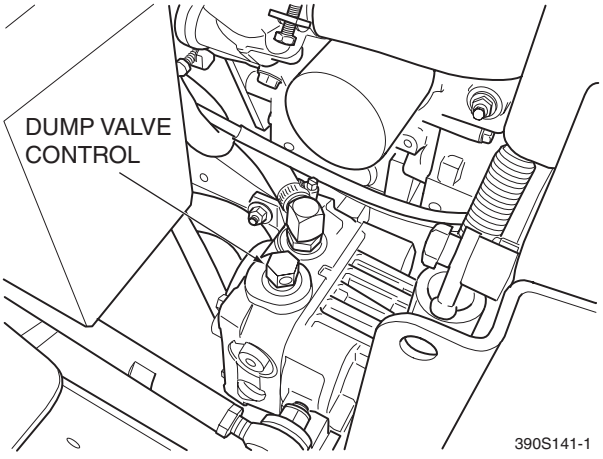


Figure 4-2. Dump Valve Control

12. **Deck Lift Foot Lever (Figure 4-1).** Used to raise and lower the cutter deck. Push full forward to lock in the transport position.
13. **Cutting Height Adjustment (Figure 4-1).** Used to set the cutter deck at the desired cutting height.
14. **Deck Release Lever (Figure 4-1).** Used to lock the cutter deck in the transport position. Push the foot pedal forward and pull back on the release lever to release the cutter deck for normal mowing.
15. **Temperature Gauge (Figure 4-1).** Indicates the operating temperature of the engine. Used on mowers with the liquid-cooled engine only.
16. **Check Engine Light (Figure 4-1).** Indicates the operation of the engine sensors on the Kohler Electronic Fuel Injection (EFI). Light will flash once at initial start up. If a problem occurs with a sensor on the engine, the light will flash a code. See your authorized Scag Dealer for diagnosis and repair.
17. **Seat Belt (Figure 4-1).** Used to secure the operator. Seat belt must be worn at all times when the ROPS is in the upright and locked position.
18. **Seat Hold Down Release Latch (Figure 4-1).** Located next to the seat. Used to secure the seat in the operator's position. Release the latch to gain access under the seat.

4.2 SAFETY INTERLOCK SYSTEM

The mower is equipped with a safety interlock system that prevents the engine from starting unless the deck drive is disengaged, the parking brake is engaged, the steering control levers are in the neutral position and the operator is in the seat. The interlock system shuts off the engine if the operator leaves the seat with the steering control levers not in the neutral position and/or the cutter blades engaged and the parking brake not engaged.

⚠ WARNING

Never operate the mower with the interlock system disconnected or malfunctioning. Do not disengage or bypass any switch; injury to yourself and others or property damage could result.

4.3 INITIAL RUN-IN PROCEDURES

FIRST DAY OF USE OR APPROXIMATELY 20 HOURS

1. Check all belts for proper alignment and wear at 2, 4 and 8 hours.
2. Change the engine oil and oil filter after the first 20 hours of operation. (See Section 7.4.)
3. Check hydraulic oil level in reservoir. (See Section 7.3.)
4. Check for loose hardware. Tighten as needed.
5. Check interlock system for proper operation. (See Section 4.2.)
6. Check tire pressure. Adjust pressure if necessary. (See Section 7.10.)

4.4 STARTING THE ENGINE

⚠ CAUTION

DO NOT USE STARTING FLUIDS. Use of starting fluids in the air intake system may be potentially explosive or cause a "runaway" engine condition that could result in engine damage and/or personal injury.

1. Be sure the fuel shutoff valve, located behind the operator's seat, is fully open. (See Section 7.5.)
2. Secure the ROPS in the upright and locked position.
3. Sit in the operator's seat, fasten seat belt and place the steering control levers in the neutral position.
4. Engage the parking brake.
5. Place the PTO switch in the disengaged position.
6. Move the engine throttle control to about half engine speed.
7. Turn the ignition key to the START position and release the key as soon as the engine starts. Do not hold the key in the START position for more than 15 seconds at a time. Allow at least 60 seconds between each cranking attempt to prevent overheating of the starter motor. Prolonged cranking can damage the starter motor and shorten battery life.
8. Allow engine to warm before operating the mower.

4.5 GROUND TRAVEL AND STEERING

- IMPORTANT -

If you are not familiar with the operation of a machine with lever steering and/or hydrostatic transmissions, the steering and ground speed operations should be learned and practiced in an open area, away from buildings, fences, or obstructions.

Learn the operation on flat ground before operating on slopes.

Start practicing with a slow engine speed and slow forward travel.

Learn to feather the steering controls to obtain a smooth operating action.

Practice operating the mower until you are comfortable with the controls before proceeding to mow.

FORWARD TRAVEL

To travel forward with the mower, disengage the parking brake, pull levers inward out of the neutral lock position and slowly push the steering control levers forward an equal distance. The further the steering control levers are pushed forward the greater the forward speed will be. To increase the speed, push the steering control levers further forward and to decrease the speed, pull the steering control levers back.

To stop the forward travel, pull the steering control levers back to the neutral position.

To steer the mower left while traveling forward, pull the left steering lever back. The further the lever is pulled back, the quicker the mower will turn left.

To steer the mower right while traveling forward, pull the right steering control lever back. The further the lever is pulled back, the quicker the mower will turn right.

- NOTE -

Smooth operation of the steering levers will produce smooth mower operation. While learning the operation of the steering controls, keep the travel speed low.

- IMPORTANT -

Do not travel forward over a curb. The mower will hang up on the curb. Raise the deck and travel backwards over the curb at a 45 degree angle. (See Section 4.1, items 13 - 15, on page 14 for cutter deck raising descriptions.)

REVERSE TRAVEL

⚠ CAUTION

Disengage power to the mower before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower.

⚠ CAUTION

Before backing up, observe the rear for persons and obstructions. Clear the area before backing up. Possible injury or property damage could occur.

To travel in reverse, pull levers inward out of the neutral lock position and pull both handles back. Keep the travel speed low while traveling in reverse.

- NOTE -

The mower may not travel straight in reverse. Slight adjustments may need to be made using the steering controls.

To steer left while traveling in reverse, allow the left steering control lever to move forward. The further the control is allowed to move forward, the quicker the mower will turn left.

To steer right while traveling in reverse, allow the right steering control lever to move forward. The further the control is allowed to move forward, the quicker the mower will turn right.

To stop the reverse travel, allow the steering control levers to return to the neutral position. If the mower is to be parked, place the handles in the neutral lock position and engage the parking brake.

4.6 ENGAGING THE DECK DRIVE (CUTTER BLADES)

1. Set the throttle at about 3/4 speed. Do not attempt to engage the deck drive at high speed as this shortens the electric clutch life — use only moderate engine speed when engaging the deck drive.
2. Engage the deck drive by pulling out on the yellow switch, located on the instrument panel, to the engage position. See Figure 4-3.

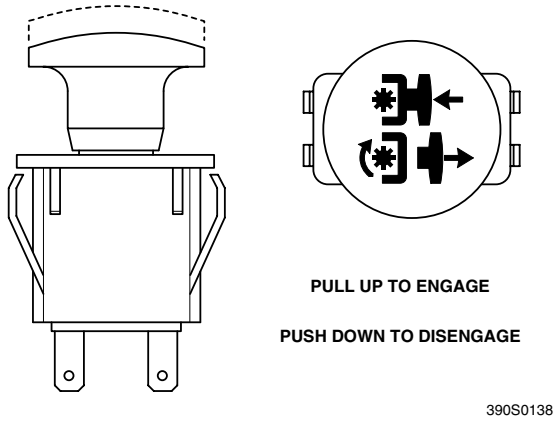


Figure 4-3. Cutter Engage Switch

- NOTE -

A squealing noise may be heard when engaging or disengaging the deck drive. It is caused by the electric clutch plates meshing as the mower comes up to speed. This is normal.

3. To disengage the deck drive, push the switch in to the disengage position.
4. Always operate the engine at full throttle to properly maintain cutting speed. If the engine starts to lug down, reduce the forward speed and allow the engine to operate at maximum RPM.

4.7 HILLSIDE OPERATION

⚠ WARNING

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-4, Page 7 to help determine approximate slope of area to be mowed. ALWAYS FOLLOW OSHA APPROVED OPERATION.

1. This mower has been designed for good traction and stability under normal mowing conditions. However, caution must be used when traveling on slopes, especially when the grass is wet. Wet grass reduces traction and steering control. The Roll-Over Protection System is standard equipment for this machine. See Section 2.5, page 6 of this manual for further details.
2. Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
3. To prevent tipping or loss of control, do not start or stop suddenly, avoid unnecessary turns and travel at reduced speed. If tires loose traction, disengage blades and proceed slowly off the slope.
4. Avoid sudden starts when mowing uphill. Sudden starts may cause the machine to tip backwards.
5. Loss of traction may occur when traveling down hill. Weight transfers to the front of the machine and may cause the drive wheels to slip causing loss of braking or steering.
6. Keep tires properly inflated.

4.8 PARKING THE MOWER

1. Park the machine on a flat, level surface only. Do not park the machine on an incline.
2. Place the steering control levers in the neutral position.
3. Disengage the cutter blades.
4. Slow the engine to idle speed.
5. Engage the parking brake.
6. Turn the ignition key to the OFF position and remove the key.

4.9 AFTER OPERATION

1. Wash the entire mower after each use. Do not use high pressure spray or direct the spray onto electrical components.

   - IMPORTANT -

   Do not wash a hot or running engine. Cold water will damage the engine. Use compressed air to clean the engine if it is hot.

2. Keep the entire mower clean to inhibit serious heat damage to the engine or hydraulic oil circuit.
3. Check the drive belts for proper alignment and any signs of wear. Correct and adjust if necessary.

⚠ DANGER

To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.

4. After the mower has cooled down, fill the fuel tank with fresh, clean fuel at the end of every day of operation. See Engine Owner's Manual for proper octane requirements.
5. Check the tire pressure. Adjust pressure if necessary.

4.10 REMOVING CLOGGED MATERIAL

⚠ DANGER

ROTATING BLADES

NEVER PUT YOUR HANDS INTO THE DISCHARGE CHUTE FOR ANY REASON!

Shut off the engine and remove the key and only then use a stick or similar object to remove material if clogging has occurred.

1. If the discharge chute becomes clogged, shut off the engine and remove the ignition key. Using a stick or similar item, dislodge the clogged material. Then resume normal mowing.

4.11 MOVING MOWER WITH ENGINE STOPPED

To “free-wheel” or move the mower around without the engine running, rotate the dump valve levers counter-clockwise. See Figure 4-4. Disengage the parking brake and move the mower by hand. When the machine is in the desired position, engage the parking brake and rotate the levers clockwise until they stop. The dump valve levers must be returned to the DRIVE position and torqued to 10 lb-ft to drive the mower.

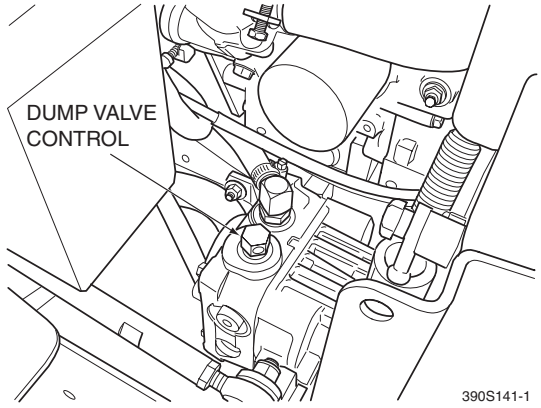


Figure 4-4. Dump Valve Control

4.12 RECOMMENDATIONS FOR MOWING

1. Do not mow with dull blades. A dull blade will tear grass, resulting in poor lawn appearance and reduced mowing power.

⚠ WARNING

DO NOT operate without Discharge Chute, Mulching Kit, or entire Grass Catcher properly installed.

2. The discharge chute must not be removed and must be kept in the lowest position to deflect grass clippings and thrown objects downward. Direct the side discharge away from sidewalks or streets to minimize cleanup of clippings. When mowing close to obstacles, direct the discharge away from the obstacles to reduce the chance of property damage by thrown objects.
3. Cut grass when it is dry and not too tall. Do not cut grass too short (cut off 1/3 or less of existing grass for best appearance). Mow frequently.
4. Keep mower and discharge chute clean.
5. When mowing wet or tall grass, mow the grass twice. Raise the mower to the highest setting for the first pass and then make a second pass to the desired height.
6. Use a slow travel speed for trimming purposes.
7. Operate the engine at full throttle for best cutting. Mowing with a lower RPM causes the mower to tear the grass. The engine is designed to be operated at full speed.
8. Use the alternate stripe pattern for best lawn appearance. Vary the direction of the stripe each time the grass is mowed to avoid wear patterns in the grass.

4.13 ADJUSTING CUTTING HEIGHT

The mower deck can be adjusted from a height of 1.0 inch to 6.0 inches at 1/4-inch intervals. To adjust the cutting height:

⚠ WARNING

DO NOT adjust the cutting height with the mower blades rotating. Disengage the power to the cutter blades and then adjust cutting height.

1. Disengage the power to the cutter blades.
2. Push the cutting height adjustment foot pedal all the way forward using your right foot until it locks in place. See Figure 4-5.

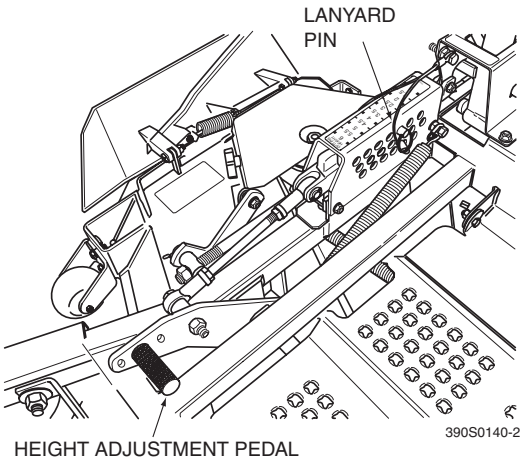


Figure 4-5. Adjusting Cutting Height

3. Insert the lanyard pin into the cutting height index at the desired cutting height. Push forward on the deck lift foot lever, hold in place and pull back on the deck release lever. See Figure 4-6. Slowly release the foot pedal. A deck height decal is located on the cutting height index as an aid in adjusting the deck to the desired height. See Figure 4-5.

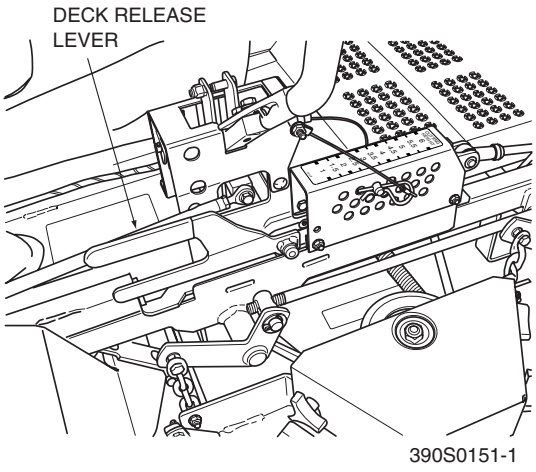


Figure 4-6. Deck Release Lever

4.14 ADJUSTING THE STEERING LEVERS

1. Position the seat to the desired location.
2. While in the operator's position without the engine running, move both steering levers forward and reverse to check for full function control and comfort.
3. If adjustment of the steering levers is needed, use the following instructions to adjust.

   A. Loosen the tension knob on the lever assembly.

   B. Rotate the steering lever forward or backward to achieve the optimum operating position.

   C. Tighten the tension knob and repeat on the opposite side.

   D. While in the operator's position, bring the steering levers out of the neutral lock position and check to make sure both levers are even before operating.

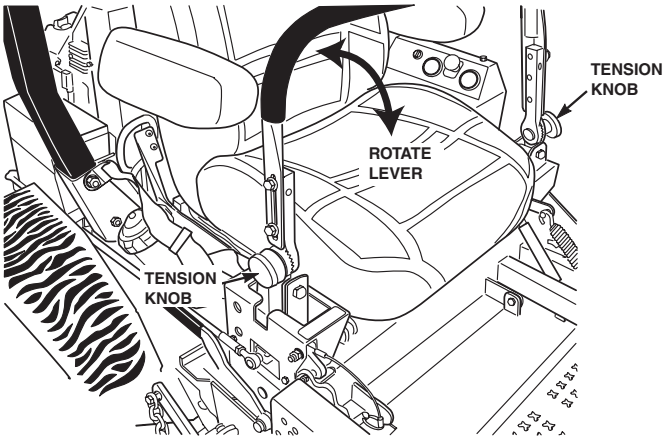


Figure 4-7. Adjusting Steering Levers

4. The control handle can also be adjusted in two different positions. If necessary, remove the two bolts securing the control handle to the control lever. Install the handle in the desired position.

4.15 ADJUSTING THE HEIGHT ADJUST PEDAL

1. Position the seat to the desired location.
2. While in the operator's position without the engine running, push down on the height adjust pedal to check for full function control.
3. The height adjust pedal can be located in three (3) different positions for operator comfort and control. See Figure 4-8.

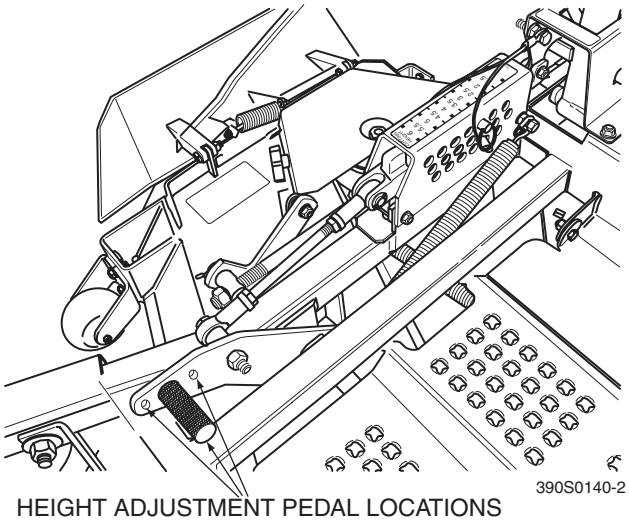
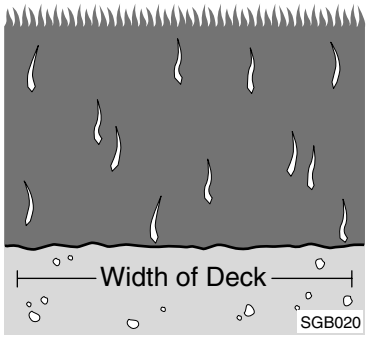
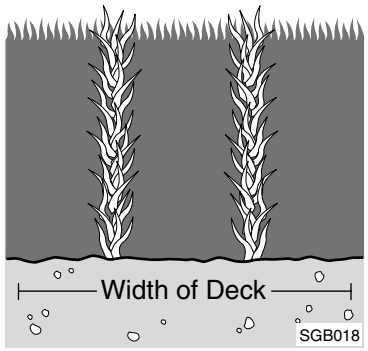
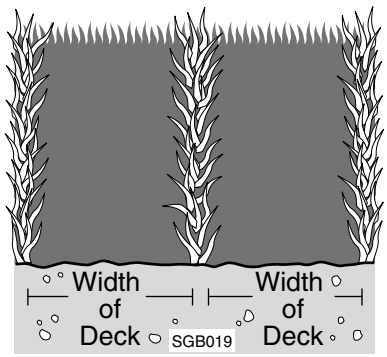


Figure 4-8. Height Adjust Pedal Locations

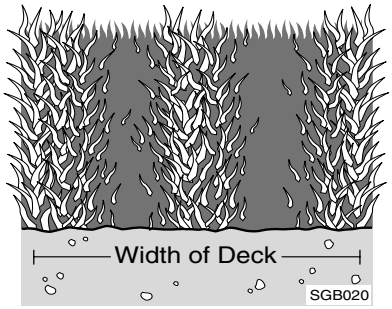
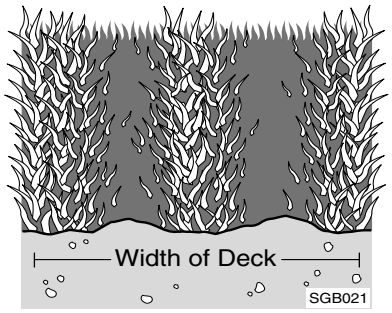
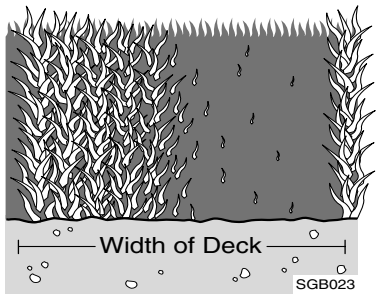
4.16 TOWING (OPTIONAL HITCH ACCESSORY)

1. NEVER allow children or others in or on towed equipment.
2. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
3. Follow manufacturer's recommendations for weight limit for towed equipment. 250 lbs. maximum towing weight.
4. NEVER tow on slopes. The weight of the towed equipment may cause loss of traction and loss of control.
5. Travel slowly and allow extra distance to stop.
6. Zero-turning with a trailer attached could cause damage to the trailer or mower.

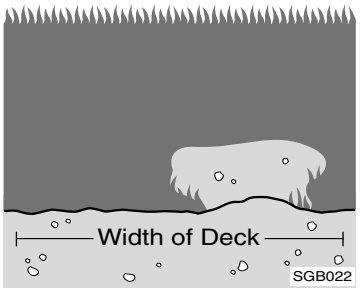
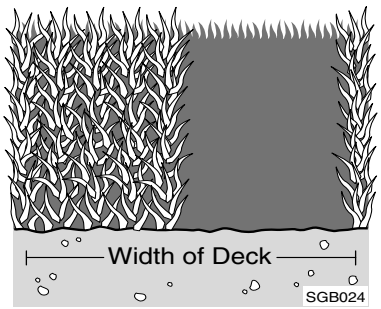
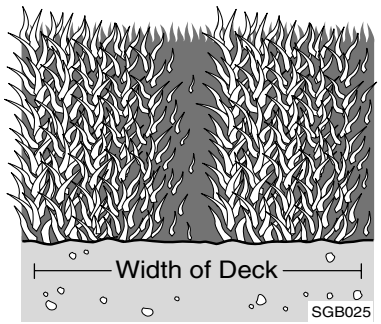
TROUBLESHOOTING CUTTING CONDITIONS

CONDITION	CAUSE	CURE
STRINGERS - OCCASIONAL BLADES OF UNCUT GRASS 	Low engine RPM	Run engine at full RPM
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Dull blades, incorrect sharpening	Sharpen blades
	Deck plugged, grass accumulation	Clean underside of deck
	Belts slipping	Adjust belt tension
STREAKING - STRIPS OF UNCUT GRASS IN CUTTING PATH 	Dull, worn blades	Sharpen blades
	Incorrect blade sharpening	Sharpen blades
	Low engine RPM	Run engine at full RPM
	Belt slipping	Adjust belt tension
	Deck plugged, grass accumulation	Clean underside of deck
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Bent blades	Replace blades
STREAKING - STRIPS OF UNCUT GRASS BETWEEN CUTTING PATHS 	Not enough overlapping between rows	Increase the overlap of each pass

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
UNEVEN CUT ON FLAT GROUND - WAVY HIGH-LOW APPEARANCE, SCALLOPED CUT, OR ROUGH CONTOUR 	Lift worn from blade	Replace blade
	Blade upside down	Mount with cutting edge toward ground
	Deck plugged, grass accumulation	Clean underside of deck
	Too much blade angle (deck pitch)	Adjust pitch and level
	Deck mounted improperly	See your authorized SCAG dealer
	Bent spindle area	See your authorized SCAG dealer
	Dull blade	Sharpen blade
UNEVEN CUT ON UNEVEN GROUND-WAVY APPEARANCE, HIGH-LOW SCALLOPED CUT, OR ROUGH CONTOUR 	Uneven ground	May need to reduce ground speed, raise cutting height, and/or change direction of cut
SLOPING RIDGE ACROSS WIDTH OF CUTTING PATH 	Tire pressures not equal	Check and adjust tire pressure
	Wheels uneven	Check and adjust tire pressure
	Deck mounted incorrectly	See your authorized SCAG dealer
	Deck not level side-to side	Check for level and correct

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
SCALPING - BLADES HITTING DIRT OR CUTTING VERY CLOSE TO THE GROUND 	Low tire pressures	Check and adjust pressures
	Ground speed too fast	Slow speed to adjust for conditions
	Cutting too low	May need to reduce ground speed, raise cutting height, change direction of cut, and/or change pitch and level
	Rough terrain	May need to reduce ground speed, raise cutting height, and/or change direction of cut
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
STEP CUT - RIDGE IN CENTER OF CUTTING PATH 	Blades not mounted evenly	Adjust pitch and level
	Bent blade	Replace blade
	Internal spindle failure	See your authorized SCAG dealer
	Mounting of spindle incorrect	See your authorized SCAG dealer
SLOPE CUT - SLOPING RIDGES ACROSS WIDTH OF CUTTING PATH 	Bent spindle mounting area	See your authorized SCAG dealer
	Internal spindle failure	See your authorized SCAG dealer
	Bent deck housing	See your authorized SCAG dealer

ADJUSTMENTS

6.1 PARKING BRAKE ADJUSTMENT

⚠ WARNING

Do not operate the mower if the parking brake is not operable. Possible severe injury could result.

The parking brake linkage should be adjusted whenever the parking brake lever is placed in the "ENGAGE" position and the parking brake will allow the mower to move. If the following procedures do not allow you to engage the parking brake properly, contact your Scag dealer for further brake adjustments.

1. Position a floor jack under the rear of the machine. Raise the machine and support it to prevent it from falling. Block the caster wheels to prevent the machine from moving. Remove the drive wheels.
2. With the brake lever in the disengaged position, check the distance between the top of the frame tube and the bottom of the brake handle. The distance should be 2" to 2-1/4" (See Figure 6-1).
3. If the distance is not at the specified measurement, adjust by loosening the jam nuts at both ends of the brake control rod and turning the rod until the proper distance is achieved. (See Figure 6-1). Tighten the jam nuts.
4. With the brake in the engaged position, check the spring compression between the two flat washers on the LH side of the machine. The distance should be 1-7/16". (See Figure 6-2).
5. If the distance is not at the specified measurement, loosen the jam nut at the rod end side of the brake actuator rod. (See Figure 6-2).
6. Turn the adjustment bolt (clockwise to decrease the spring compression or counter clockwise to increase the spring compression) until the 1-7/16" measurement is achieved and tighten the jam nut. (See Figure 6-2).
7. Repeat steps 4 though 6 on the RH side of the machine.
8. Replace the drive wheels and test the brake.

- NOTE -

If this procedure does not achieve proper brake adjustment, please contact your authorized Scag dealer.

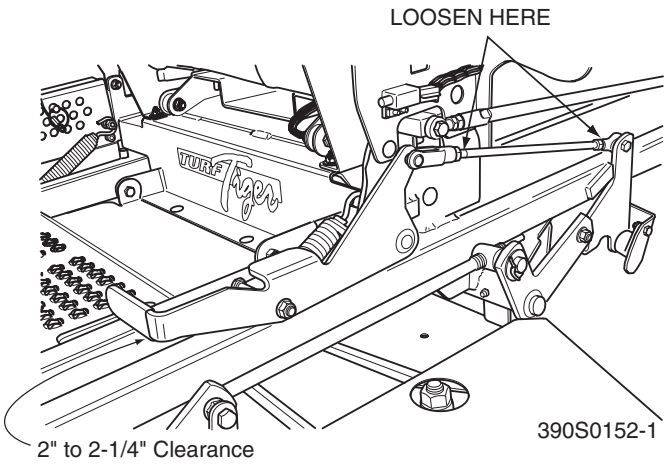


Figure 6-1. Brake Adjustment

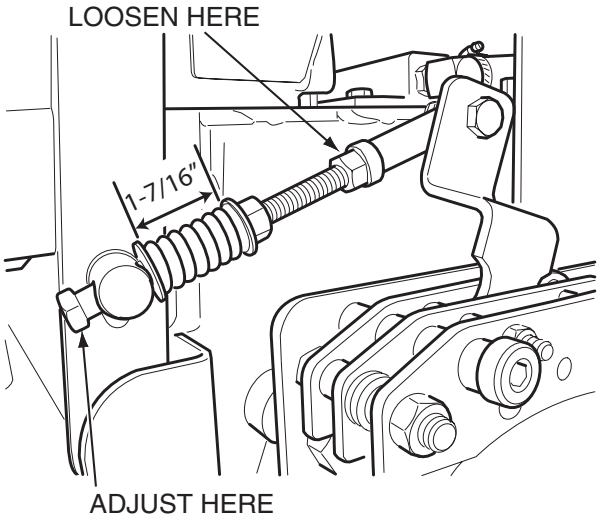


Figure 6-2. Brake Rod Adjustment

6.2 TRAVEL ADJUSTMENTS

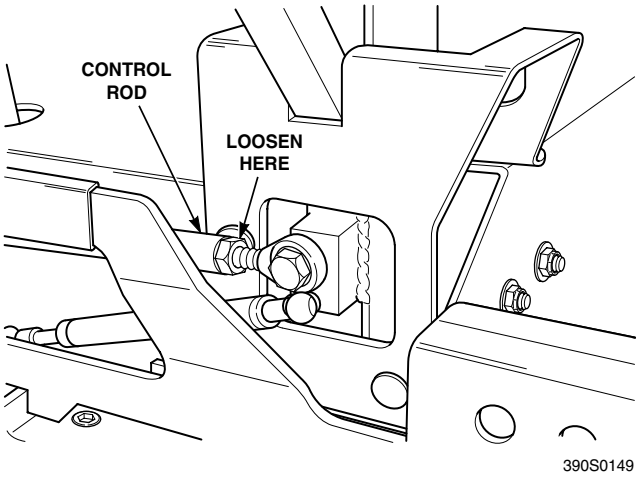
Neutral or tracking adjustments will need to be made if:

A. The steering control levers are in the neutral position and the machine creeps forward or backward. (Neutral Adjustment).

B. The steering control levers are in the full forward position and the mower pulls to one side or the other when traveling in a forward direction. (Tracking Adjustment, See Page 25).

NEUTRAL ADJUSTMENT

1. Be sure the dump valve levers are in the run position and the steering control levers are in the neutral lock position.
2. With an operator in the seat, start the engine and disengage the parking brake.
3. Run the engine at full operating speed and check if the machine creeps forward or backwards.
4. Adjust the RH wheel by loosening the jam nuts on the steering control rod and turning the rod until the drive wheel turns in the forward direction. Turn the rod back until the drive wheel stops moving. Turn the rod an additional 1/2 turn. (See Figure 6-3).



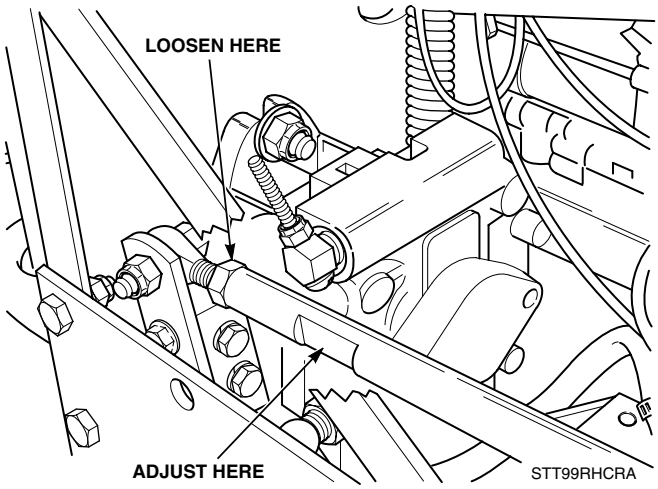


Figure 6-3. RH Steering Control Rod Adjustment

5. Tighten the jam nuts and repeat for the LH wheel. (See Figure 6-4).

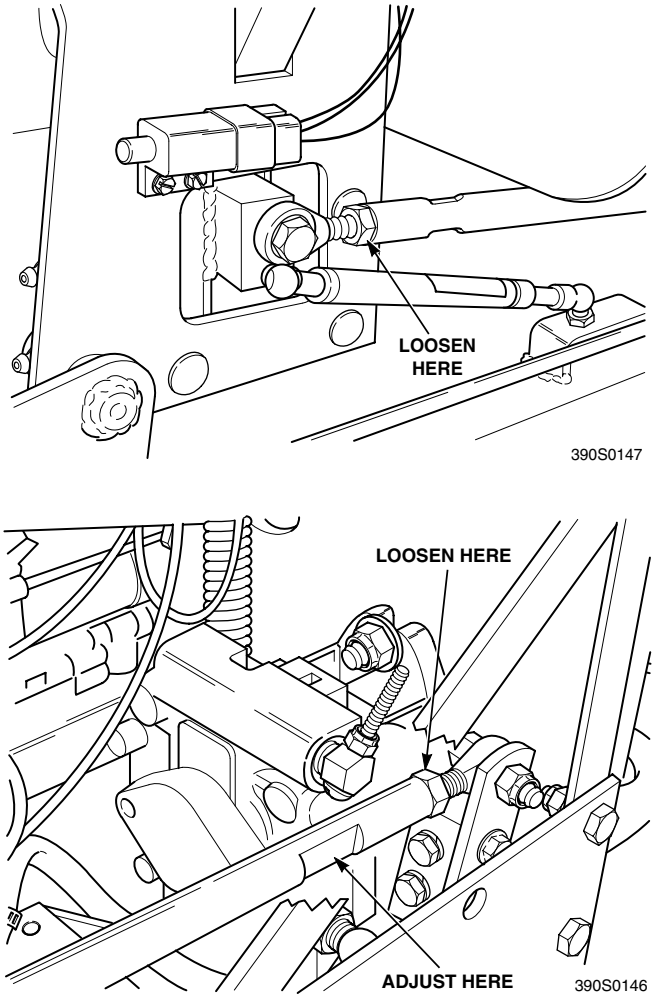


Figure 6-4. LH Steering Control Rod Adjustment

6. Actuate the steering control levers forward and reverse several times and return them to the neutral position.
7. Check that the drive wheels remained in neutral and readjust if necessary.
8. Check that the steering control levers hit the stop before the pumps reach full stroke. Adjust as needed.

TRACKING ADJUSTMENT

⚠ CAUTION

Stop the engine and remove the key from the ignition before making any adjustments. Wait for all moving parts to come to a complete stop before beginning work.

⚠ CAUTION

The engine and drive unit can get hot during operation causing burn injuries. Allow engine and drive components to cool before making any adjustments.

- NOTE -

Before proceeding with this adjustment, be sure that the caster wheels turn plus pivot freely and that the tire pressure in the drive wheels is correct. If the tire pressure is not correct, the machine will pull to the side with the lower pressure.

1. If at full speed the mower pulls right, it is an indication that the left wheel is turning faster than the right wheel. To adjust this condition, proceed as follows:

   A. Stop the machine and place the steering control levers in the neutral position. Loosen the lock nuts securing the ball joints at each end of the LH steering control rod. Rotate the control rod to lengthen the rod and tighten the lock nuts. This will cause the control rod to stroke the LH pump less, slowing down the LH wheel. (See Figure 6-4, page 24)

- NOTE -

If after making the adjustment as outlined in step 1A, the machine creeps forward or backward, the neutral adjustment must be made as described on page 24.

2. If at full speed the mower pulls left, it is an indication that the right wheel is turning faster than the left wheel. To adjust this condition, proceed as follows:

   A. Stop the machine and place the steering control levers in the neutral position. Loosen the lock nuts securing the ball joints at each end of the RH steering control rod. Rotate the control rod to lengthen the rod and tighten the lock nuts. This will cause the control rod to stroke the RH pump less, slowing down the RH wheel. (See Figure 6-3, page 24).

- NOTE -

If after making the adjustment as outlined in step 2A, the machine creeps forward or backward, the neutral adjustment must be made as described on page 26.

6.3 THROTTLE CONTROL AND CHOKE ADJUSTMENTS

These adjustments must be performed by your Scag dealer to ensure proper and efficient running of the engine. Should either need adjustment, contact your authorized Scag service center.

6.4 BELT ADJUSTMENT

⚠ WARNING

Before removing any guards, shut the engine off and remove the ignition key.

All drive belts and cutter deck belts are spring loaded and self-tensioning. The springs should be checked periodically for proper alignment and wear.

6.5 BELT ALIGNMENT

Belt alignment is important for proper performance of your Scag mower. If you experience frequent belt wear or breakage, see your authorized Scag service center for belt adjustment.

6.6 CUTTER DECK ADJUSTMENTS

Cutter deck level, pitch and height are set at the factory. However, if these adjustments should ever need to be made, the following procedures will aid in obtaining the proper cutter deck adjustment.

- NOTE -

Before proceeding with the cutter deck adjustments, be sure that all tires are properly inflated.

CUTTER DECK LEVEL

The cutter deck should be level from side-to-side for proper cutting performance. To check for level, be sure that the mower is on a flat, level surface, the tires are properly inflated and the cutter deck is set at the most common cutting height that you will use. On the RH side of the machine, check the distance from the bottom of the cutter deck to the floor. Next check the distance from the bottom of the cutter deck to the floor on the LH side of the machine. Both measurements should be the same. If the two measurements are different, the cutter deck level must be adjusted as follows:

1. On the front LH side of the cutter deck locate the cutter deck level adjusting bracket (See Figure 6.5)

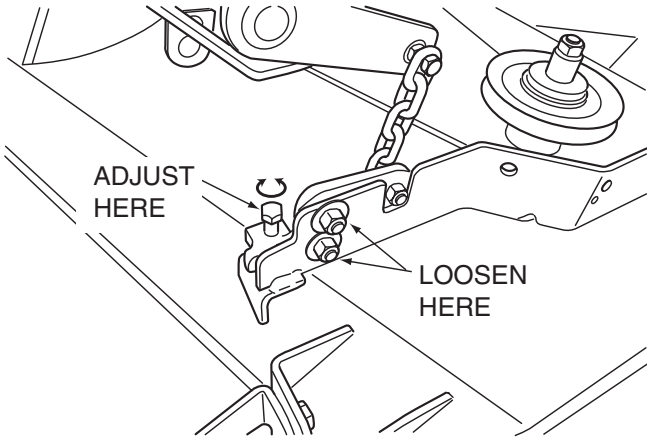


Figure 6-5. Cutter Deck Level Adjustment

2. Loosen the two (2) elastic stop nuts. Adjust the bolt up or down on the adjustment bracket to adjust the cutter deck until the distance from the bottom of the cutter deck to the floor is the same as the measurement on the RH side of the machine.
3. Tighten the two elastic stop nuts to secure the cutter deck in the proper position.

CUTTER DECK PITCH

The pitch of the cutter deck should be equal between the front and rear of the cutter deck for proper cutting performance. To check for proper deck pitch, be sure that the mower is on a flat, level surface and the tires are properly inflated.

Check the distance from the bottom of the cutter deck to the floor at the rear RH side of the cutter deck directly behind the cutter deck hanging chains. Next check the distance from the bottom of the cutter deck to the floor at the front RH side of the cutter deck directly in front of the cutter deck hanging chains. The measurement at the front of the cutter deck should be equal to the measurement at the rear of the deck. Make these measurements at the LH side of the cutter deck also. If the measurement at the front of the deck is not equal, the cutter deck pitch must be adjusted as follows:

1. Loosen the jam nut on both adjusting rods. (See Figure 6.6)

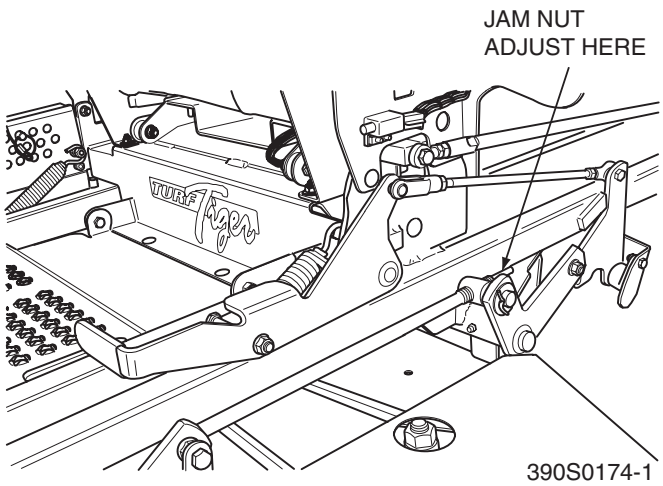


Figure 6-6. Cutter Deck Level Adjustment

2. Using a wrench on the jam nut (See Figure 6.6) turn the adjusting rods until the proper pitch is obtained on both the RH and the LH side of the cutter deck. Tighten both jam nuts.

- NOTE -

To prevent the cutter deck from teetering, all four (4) cutter deck hanging chains must have tension on them. If all four chains do not have tension on them and the deck teeters, you must readjust the cutter deck as outlined in the procedures above.

CUTTER DECK HEIGHT

The cutter deck height adjustment is made to ensure that the cutter deck is cutting at the height indicated on the cutting height index gauge. To check for proper deck height, be sure that the mower is on a flat, level surface and the tires are properly inflated.

1. Place the cutter deck in the transport position. Loosen the jam nuts on both ends of the deck height control rod. (See Figure 6.7)

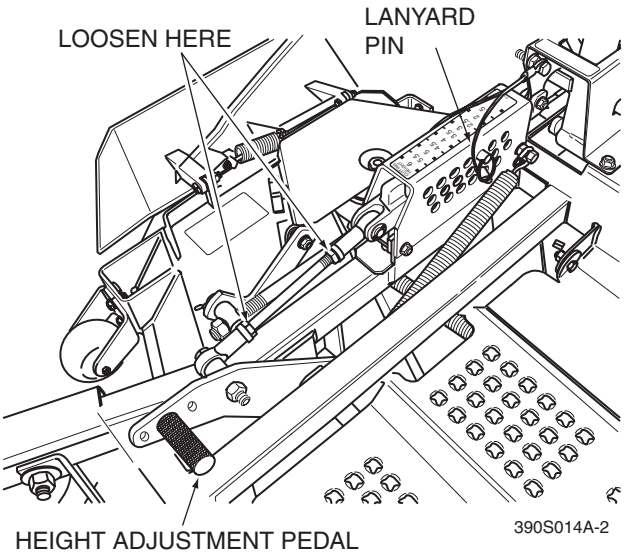


Figure 6-7. Cutter Deck Height Adjustment

2. Turn the control rod (See Figure 6.7) until there is a 1/4" space between the rear deck stop and the top of the cutter deck. (See Figure 6.8). Tighten the jam nuts on the control rod.

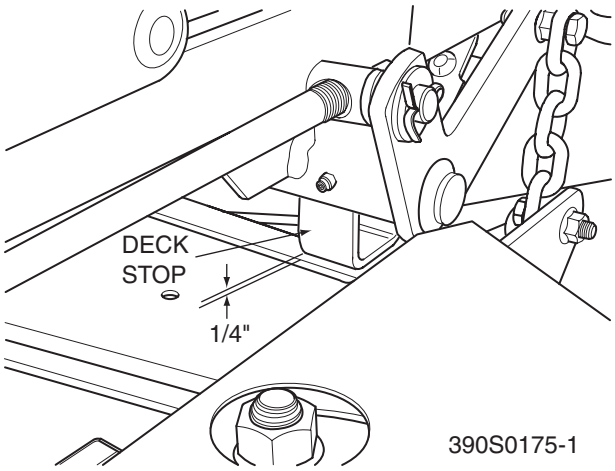


Figure 6-8. Cutter Deck Stop

3. Check the cutter deck cutting height by placing the lanyard pin in the 3" position on the cutting height index. Release the deck from the transport position and allow the deck to move to the 3" cutting height position.

4. Check the measurement from the floor to the cutter blade tip. If the measurement is not at 3", an adjustment can be made using the deck height control rod. (See Figure 6.7)

- NOTE -

If an adjustment had to be made, be sure that the cutter deck can easily be locked into the transport position.

6.7 CUSTOM-CUT BAFFLE ADJUSTMENT

The Custom-Cut Baffle is designed to deliver optimum airflow and superior cutting performance in any type of grass. The Custom-Cut Baffle can be raised or lowered to precisely tailor the deck's performance for the type of grass being cut. The baffle can be set in seven (7) different positions for optimum performance.

A. 3-1/2" or 3-3/4" Position - (See Figure 6-9). For very tall, wiry or tough-to-cut grass.

B. 4" (factory setting), 4-1/4" or 4-1/2" Position - (See Figure 6-9). For general purpose cutting. This gives the best mix of cutting performance in all types of grass.

C. 4-3/4" or 5-1/4" Position - (See Figure 6-9). Placing the baffle in either the 4-3/4" or 5-1/4" setting will enhance fall cutting (leaf pickup) and reduce cutter deck "blowout".

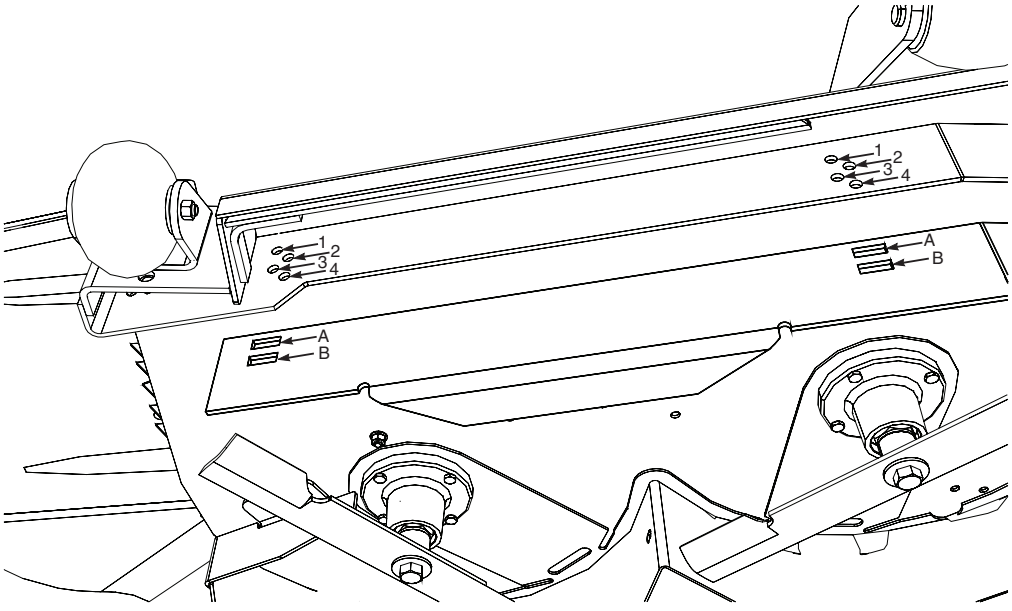
To adjust the Custom-Cut Baffle height:

1. Place the cutter deck in the transport position.
2. Remove the hardware securing the Custom-Cut Baffle to the cutter deck.

- NOTE -

Hardware location used in the illustrations are for reference only. Location of hardware may vary depending on cutter deck size.

3. Move the Custom-Cut Baffle to desired position. See Figure 6-9.
4. Reinstall the mounting hardware. Torque hardware to 39 lb-ft.



Custom-Cut Baffle Adjustment

Mounting Slot Selected		Mounting Hardware Location		
Slot “A”	Hole 1	Hole 2	Hole 3	Hole 4
Height (inches)	3-3/4”	4-1/4”	4-3/4”	5-1/4”
Slot “B”		Hole 2	Hole 3	Hole 4
Height (inches)		3-1/2”	4”	4-1/2”

Figure 6-9. 7-Position Custom-Cut Baffle Adjustment

6.8 ELECTRIC CLUTCH ADJUSTMENT

The electric clutch serves two functions in the operation of the mower. In addition to starting and stopping the power flow to the cutter blades, the clutch also acts as a brake to assist in stopping blade rotation when the PTO is switched off or the operator presence circuit is interrupted.

When the clutch is disengaged, the air gap between the armature and rotor must be adjusted to fifteen thousandths of an inch, 0.015, for proper operation. The airgap adjustment is made at three bolts on the clutch. There are three inspection windows, one next to each adjusting bolt. See Figure 6-10.

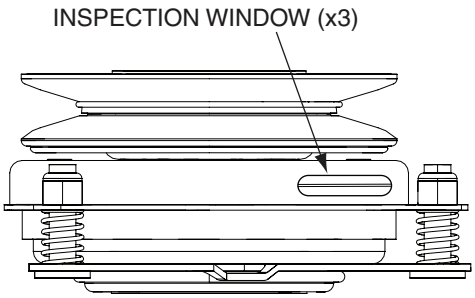


Figure 6-10. Clutch Air Gap Adjustment

1. Locate the inspection windows on the clutch.
2. Place a 0.015 feeler gauge in the slot between the rotor and the armature.
3. Tighten or loosen the adjusting bolt as needed to acheive the 0.015 inch airgap. See Figure 6-11. Perform this operation at all three inspection windows.

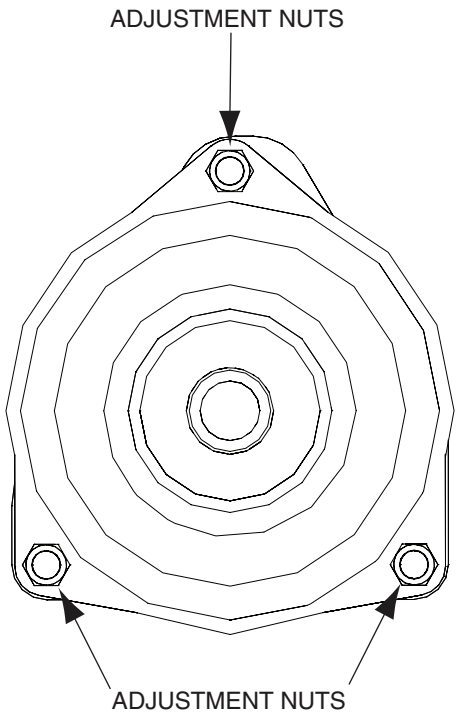


Figure 6-11. Clutch Air Gap Adjustment

This adjustment should be done every 500 hours of operation or annually, whichever comes first. In cases where the machine is heavily used, airgap settings should be checked more often.

If the air gap is too narrow, the clutch armature may drag when disengaged, resulting in premature failure.

If the air gap is too wide, the clutch may be slow to engage as the magnet must pull the armature in from a greater distance.

MAINTENANCE

7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS

HOURS							PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	20	40	100	200	500		
X							Check all hardware for tightness	
X							Check hydraulic oil level	See paragraph 7.3
X							Check all belts for proper alignment	See paragraph 7.8
X							Check coolant level	See paragraph 7.11
X							Check hydraulic hoses for leaks	Use extreme caution when checking the hydraulic hoses. See paragraph 2.6
	X						Check engine oil level	See paragraph 7.4
	X						*Clean mower	See paragraph 7.12
	X						Check condition of blades	See paragraph 7.9
	X						Apply grease to fittings	See paragraph 7.2
	X						Check tire pressure	See paragraph 7.10
	X						Inspect seat belt for wear or damage	See paragraph 2.5
	X						Check the operator interlock system	See paragraph 4.2
	X						Check coolant level	See paragraph 7.11
		X					Change engine oil and filter	See paragraph 7.4
			X				Check battery electrolyte level clean battery posts and cables	See paragraph 7.7
			X				Check belts for proper alignment	See paragraph 7.8
				X			Apply grease to fittings	See paragraph 7.2
				X			Change engine oil	See paragraph 7.4
				X			*Clean air cleaner element	See paragraph 7.6
				X			Check lubricant in cutter deck gearbox	See paragraph 7.11
				X			Check condition of fuel lines	

* Perform these maintenance procedures more frequently under extreme dusty or dirty conditions

MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS (CONT'D)

HOURS						PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	40	100	200	500		
				X		Apply grease to fittings	See paragraph 7.2
				X		Check hardware for tightness	
				X		Change engine oil filter	See paragraph 7.4
				X		Check hydraulic oil level	See paragraph 7.3
					X	Replace engine fuel filter	See paragraph 7.5
					X	Drain hydraulic system and replace hydraulic oil	Use SAE 20W50 Motor Oil. See paragraph 7.3
					X	Replace hydraulic oil filter	See paragraph 7.3
					X	Replace cutter deck gearbox lubricant	See paragraph 7.11
					X	Change coolant	See paragraph 7.11

7.2 LUBRICATION

GREASE FITTING LUBRICATION CHART (SEE FIGURE 7-1)

LOCATION	LUBRICATION INTERVAL	LUBRICANT	NO. OF PLACES
1 Caster Wheel Pivot *	500 Hours/Yearly	Chassis Grease	2
2 Caster Wheel Bearings	100 Hours/Monthly	Chassis Grease	2
3 Brake Actuator	200 Hours/Monthly	Chassis Grease	2
4 Cutter Deck Bellcranks	100 Hours/Bi-Weekly	Chassis Grease	4
5 Cutter Deck Pusharms	100 Hours/Bi-Weekly	Chassis Grease	2
6 PTO Spindle	40 Hours/Weekly	+Lithium MP White Grease 2125	1
7 Cutter Deck Spindle	40 Hours/Weekly	+Lithium MP White Grease 2125	3
8 Brake Handle	200 Hours/Monthly	Chassis Grease	1
9 Cutter Deck Drive Shaft U-Joints	200 Hours/Monthly	Chassis Grease	2
10 Cutter Deck Drive Shaft Slip Sleeve	40 Hours/Weekly	Chassis Grease	1

+ Compatible Greases:
Mobilix #2 found at Mobil Service Stations
Ronex MP found at Exxon Service Stations
Super Lube MEP #2 & Super Stay-M #2 found at Conoco Stations
Shell Alvania #2 found at Shell Service Stations
Lidok EP #2 found at industrial shops
Timken Lithium Multi-Use #2 found at industrial shops

* PROCEDURE: Remove grease cap, part number 481559. Remove plug, part number 482028-01, and install grease zerk. Apply grease to the fitting until new grease appears at the top of the caster extension. Remove the grease zerk and reinstall the plug. Reinstall the grease cap. Special tool, part number 47007, is recommended for use in the installation of the grease cap.

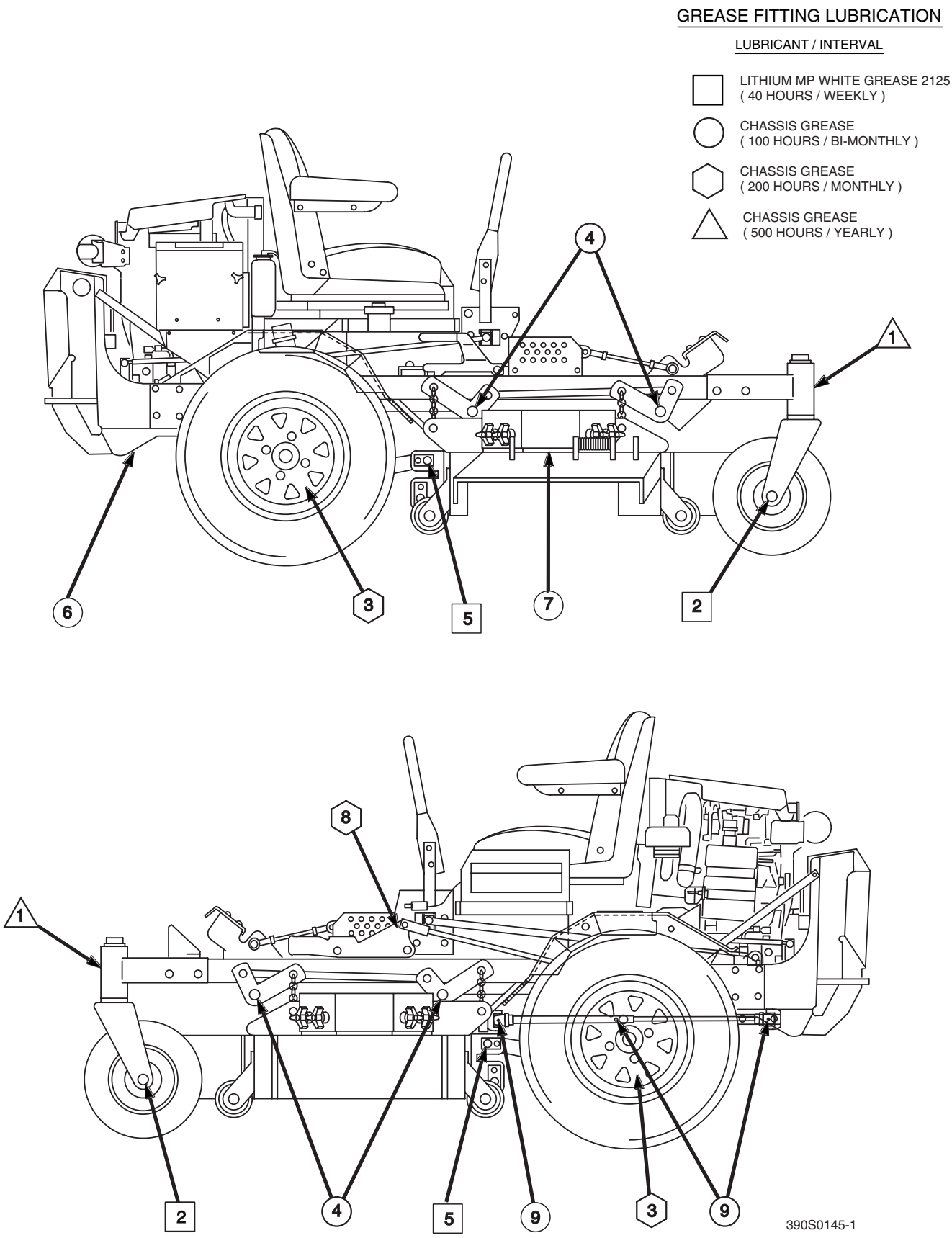


Figure 7-1. Lubrication Fitting Points

7.3 HYDRAULIC SYSTEM

A. CHECKING HYDRAULIC OIL LEVEL

The hydraulic oil level should be checked after the first 10 hours of operation. Thereafter, check the oil after every 200 hours of machine operation or monthly, whichever occurs first.

- IMPORTANT -

If the oil level is consistently low, check for leaks and correct immediately.

1. Wipe dirt and contaminants from around the reservoir cap. Remove the cap from the hydraulic oil reservoir.
2. Visually check the level of hydraulic oil. Hydraulic oil must be at least 3" inches from top of the filler neck. If the level cannot be determined visually, use a clean tape measure to check the level. If the fluid is low, add 20W50 motor oil. DO NOT overfill; (overfilling the oil reservoir may cause oil seepage around the cap area).
3. Clean the fill cap and install it onto the reservoir.

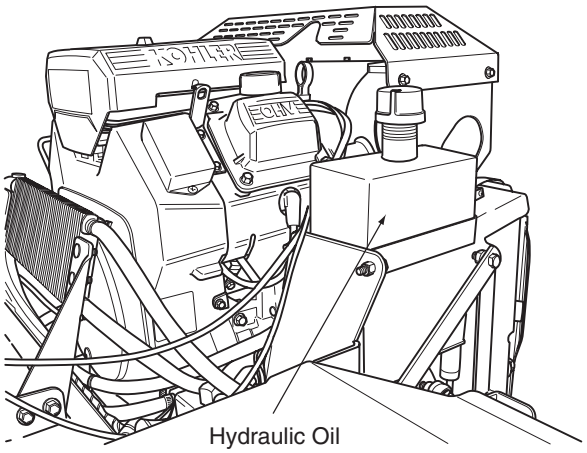


Figure 7-2. Hydraulic Oil Reservoir

B. CHANGING HYDRAULIC OIL

The hydraulic oil should be changed after every 500 hours or annually, whichever occurs first. The oil should also be changed if the color of the fluid has become black or milky. A black color and/or a rancid odor usually indicates possible overheating of the oil, and a milky color usually indicates water in the hydraulic oil.

- IMPORTANT -

The hydraulic oil should be changed if you notice the presence of water or a rancid odor to the hydraulic oil.

1. Park the mower on a level surface and stop the engine.
2. Place a suitable container under the hydraulic oil filter. Remove the fill cap from the reservoir and the drain plug from the bottom of the drain tee fitting on the filter base. See Figure 7-3. Allow the fluid to drain into the container and properly discard it.

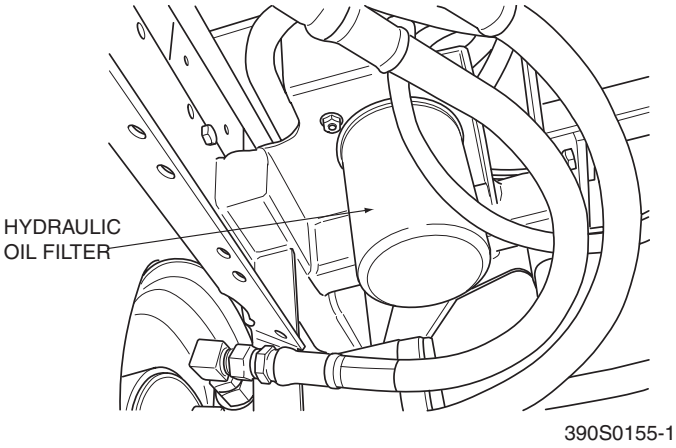


Figure 7-3. Hydraulic Oil Filter

3. Re-install the drain plug into the tee fitting and be sure it is tight.

- NOTE -

Before refilling the hydraulic oil reservoir the hydraulic oil filter should be changed as outlined in Procedure C "Changing Hydraulic Oil Filter Element" on page 34.

4. Fill the reservoir to 3-1/4" inches from the top of the filler neck with 20W50 motor oil.
5. Replace the reservoir fill cap. Start the engine and drive forward and backward for two minutes. Check the oil level in the reservoir. If necessary, add oil to the reservoir.

C. CHANGING HYDRAULIC OIL FILTER ELEMENT

The hydraulic oil filter should be changed after every 500 hours of operation or annually, whichever occurs first.

1. Remove the oil filter element and properly discard it. See Figure 7-3. Fill the new filter with clean oil and install the filter. Hand tighten only.
2. Run the engine at idle speed with the speed control lever in neutral for five minutes.
3. Check the oil level in the hydraulic tank. It must be 3-1/4" inches from the top of the filler neck. If necessary, add SAE 20W50 motor oil.

7.4 ENGINE OIL

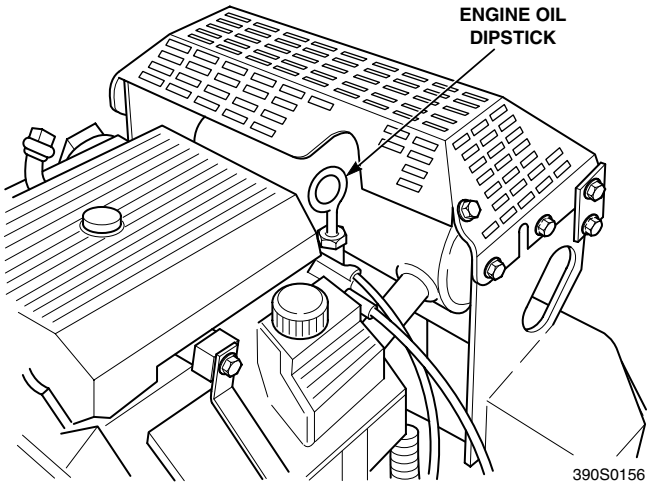


Figure 7-4. Engine Oil Fill/Dipstick Location

A. CHECKING ENGINE CRANKCASE OIL LEVEL

The engine oil level should be checked after every 8 hours of operation or daily as instructed in the Engine Operator's Manual furnished with this mower.

B. CHANGING ENGINE CRANKCASE OIL

After the first 20 hours of operation, change the engine crankcase oil and replace the oil filter. Thereafter, change the engine crankcase oil after every 100 hours of operation or bi-weekly, whichever occurs first. Refer to the Engine Operator's Manual furnished with this mower for instructions. See Figure 7-5.

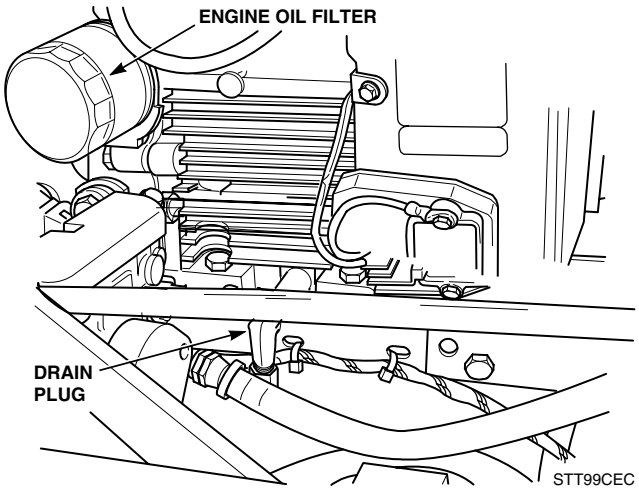


Figure 7-5. Drain Plug and Oil Filter Location

C. CHANGING ENGINE OIL FILTER

After the first 20 hours of operation, replace the engine oil filter. Thereafter, replace the oil filter after every 200 hours of operation or every month, whichever occurs first. Refer to Engine Operator's Manual for instructions. See Figure 7-5.

7.5 ENGINE FUEL SYSTEM

⚠ DANGER

To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.

A. FILLING THE FUEL TANK

Fill the fuel tank at the beginning of each operating day. For EPA Phase 2 (produced prior to 1/1/2011) models, fill to within one (1) inch below the filler neck. For Low Emission (LE) and EPA Phase 3 (produced after 1/1/2011) models, fill to the bottom of the filler neck insert (approximately 8-1/2 gallons indicating Full (F) on the fuel gauge) at the beginning of each operating day. See Figure 7-6. Do not overfill. Use clean, fresh unleaded gasoline with a minimum octane rating of 87 and a maximum of 10% Ethanol.

DO NOT use E85 Fuel. Using E85 Fuel will cause severe damage to the engine.

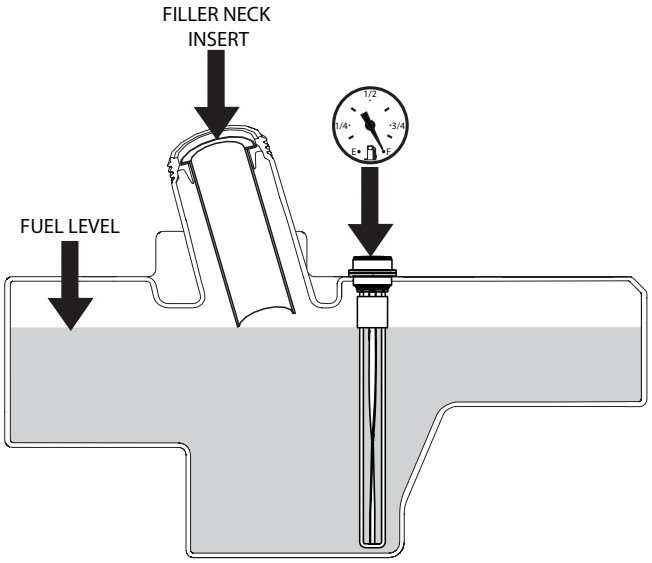


Figure 7-6. C.A.R.B. / EPA Phase 3 Fuel Level

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.

1. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
2. Use only an approved gasoline container.
3. Never remove the gas cap or add fuel with the engine running. Allow the engine to completely cool before fueling.
4. Never fuel the machine indoors or in an enclosed trailer.
5. Never store the machine or fuel container where there is an open flame, spark or pilot light such as on a water heater or other appliances.
6. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
7. Remove the machine from the truck or trailer and fuel on the ground. If this is not possible, then refuel the machine with a portable container, rather than from a gasoline dispenser nozzle.
8. Keep the nozzle in contact with the rim of fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
9. If fuel is spilled on clothing, change clothing immediately and wash affected skin.
10. Replace gas cap and tighten securely. For Low Emission (LE) and EPA Phase 3 (produced after 1/1/2011) models, tighten the fuel cap until it ratchets.

B. REPLACING IN-LINE FUEL FILTER ELEMENTS

The engine fuel filter should be replaced after every 500 hours of operation or annually, whichever occurs first. See Figure 7-7.

1. Close the shut-off valve.
2. Remove the two clamps securing the fuel filter to the fuel hose. Remove the fuel filter.
3. Install a new fuel filter. Be sure it is installed in the proper direction. Secure to the fuel hose using the two clamps.
4. Open the fuel shut-off valve.

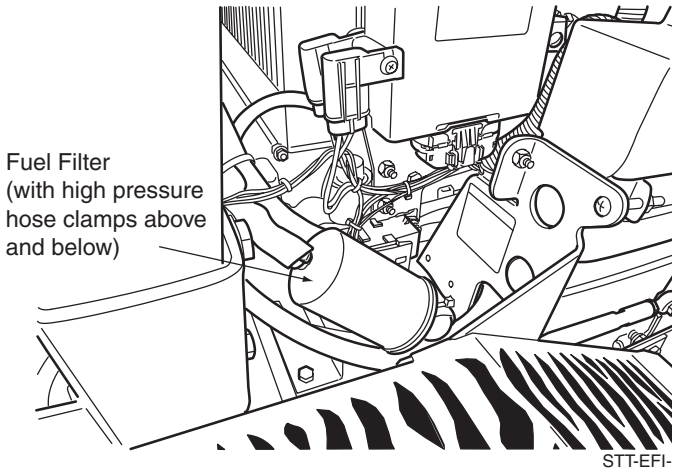


Figure 7-7. Fuel Filter

7.6 ENGINE AIR CLEANER

A. CLEANING AND/OR REPLACING AIR CLEANER ELEMENT

For any air cleaner, the operating environment dictates the air cleaner service periods. Inspect and clean the air cleaner element after every 100 hours of operation or bi-weekly, whichever occurs first and replace the element if required. See Engine Owner's Manual for service information.

- NOTE -

In extremely dusty conditions it may be necessary to check the element once or twice daily to prevent engine damage.

1. Unhook the clamps securing the air cleaner cover to the air filter canister. Remove the air cleaner cover and set aside.
2. Remove the air cleaner and inspect.
3. Clean or replace the air cleaner and foam pre-cleaner as recommended by the engine manufacturer.
4. Replace the air cleaner cover and be sure to snap the latches closed.

7.7 BATTERY

⚠ WARNING

Lead-acid batteries produce flammable and explosive gases. To avoid personal injury when checking, testing or charging batteries, DO NOT use smoking materials near batteries. Keep arcs, sparks and flames away from batteries. Provide proper ventilation and wear safety glasses.

⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to cause cancer and reproductive harm. Wash hands after handling.

⚠ WARNING

Electric storage battery fluid contains sulfuric acid which is POISON and can cause SEVERE CHEMICAL BURNS. Avoid contact of fluid with eyes, skin, or clothing. Use proper protective gear when handling batteries. DO NOT tip any battery beyond 45° angle in any direction. If fluid contact does occur, follow first aid suggestions below.

BATTERY ELECTROLYTE FIRST AID

External Contact — Flush with water.

Eyes — Flush with water for at least 15 minutes and get medical attention immediately.

Internal — Drink large quantities of water. Follow with Milk Of Magnesia, beaten egg, or vegetable oil. Get medical attention immediately. In case of internal contact, DO NOT give fluids that would induce vomiting.

A. CHARGING THE BATTERY

Refer to the battery charger's manual for specific instructions.

Under normal conditions the engine's alternator will have no problem keeping a charge on the battery. If the battery has been completely discharged for a long period of time, the alternator may not be able to recharge the battery, and a battery charger will be required.

DO NOT charge a frozen battery. It may explode and cause injury. Let the battery warm before attaching a charger.

Whenever possible, remove the battery from the mower before charging and make sure the electrolyte covers the plates in all cells.

⚠ WARNING

BATTERIES PRODUCE EXPLOSIVE GASES. Charge the battery in a well ventilated space so gases produced while charging can dissipate.

Charging rates between 3 and 50 amperes are satisfactory if excessive gassing or spewing of electrolyte does not occur or the battery does not feel excessively hot (over 125°F). If spewing or gassing occurs or the temperature exceeds 125°F, the charging rate must be reduced or temporarily stopped to permit cooling.

B. JUMP STARTING

1. The booster battery must be a 12 volt type. If a vehicle is used for jump starting, it must have a negative ground system.
2. When connecting the jumper cables, connect the positive cable to the positive battery post, then connect the negative cable to the negative battery post.

7.8 DRIVE BELTS

All drive belts are spring-loaded and self-tensioning, however after the first 2, 4, 8 and 10 hours of operation, the belts should be checked for proper alignment and wear. Thereafter, check the belts after every 40 hours of operation or weekly, whichever occurs first.

- NOTE -

If you experience frequent belt wear or breakage, see your authorized Scag service center for belt adjustment.

7.9 CUTTER BLADES

A. BLADE INSPECTION

1. Remove the ignition key before servicing the blades.
2. Raise the mower deck to the highest position. Place the lanyard pin in the highest cutting height position to prevent the cutter deck from falling.

⚠ WARNING

Always wear proper hand and eye protection when working with cutter blades.

3. Check the cutter blades for straightness. If the cutter blades appear bent, they will need to be replaced.

⚠ WARNING

Do not attempt to straighten a bent blade, and never weld a broken or cracked blade. Always replace it with a new blade to assure safety.

4. If a blade cutting edge is dull or nicked, it should be sharpened. Remove the blades for sharpening. See "Blade Replacement."

- NOTE -

Keep the blades sharp. Cutting with dull blades not only yields a poor mowing job, but slows the cutting speed of the mower and causes extra wear on the engine and the blade drive by pulling hard.

B. BLADE SHARPENING

- NOTE -

If possible, use a file to sharpen the blade. Using a wheel grinder may burn the blade.

- NOTE -

DO NOT sharpen the blades beyond 1/3 of the width of the blade. See Figure 7-8.

1. Sharpen the cutting edge at the same bevel as the original. See Figure 7-8. Sharpen only the top of the cutting edge to maintain sharpness.

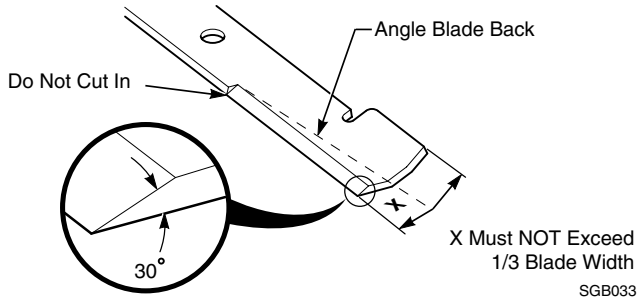


Figure 7-8. Blade Sharpening

2. Check the balance of the blade. If the blades are out of balance, vibration and premature wear can occur. See your authorized Scag dealer for blade balancing or special tools, if you choose to balance your own blades.

C. BLADE REPLACEMENT

⚠ WARNING

Always wear proper hand and eye protection when working with cutter blades.

1. Remove the ignition key before replacing the blades.
2. Raise the mower deck to the highest position. Place the lanyard pin in the highest cutting height position to prevent the cutter deck from falling.
3. Secure the cutter blades to prevent them from rotating, (use the optional Blade Buddy tool P/N 9212, to assist in securing the cutter blades), remove the nut from the blade attaching bolt. Remove the cutter blade, bolt and spacer from the spindle shaft. See Figure 7-9.

- NOTE -

The front of the machine will have to be raised slightly to remove the blade bolt from the cutter spindle.

4. To install the new cutter blade, put the flat washer onto the blade bolt and slide the bolt into the hole in the cutter blade.

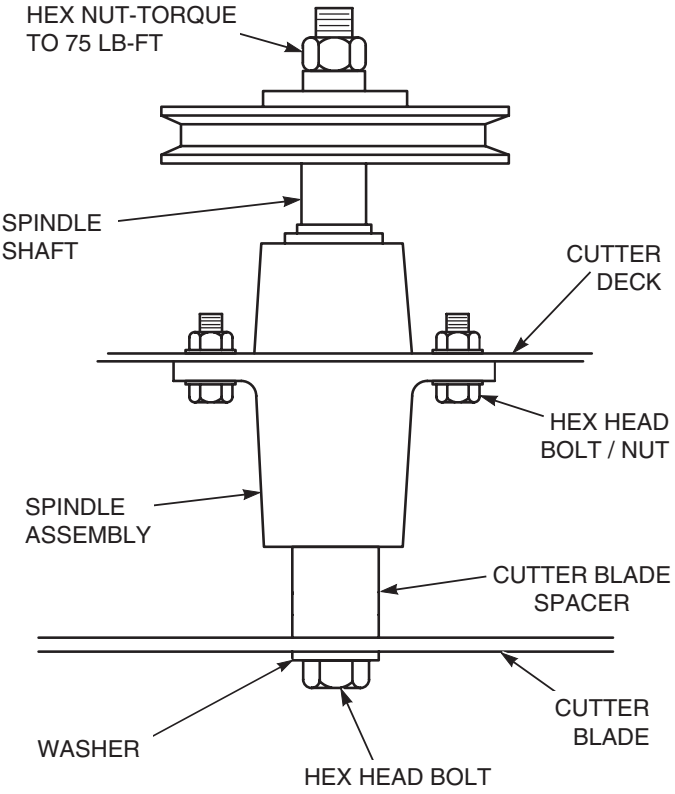


Figure 7-9. Blade Replacement

- NOTE -

Be sure that the blade is installed with the lift wing toward the top.

5. Install the spacer onto the blade bolt and insert the bolt into the cutter spindle shaft.
6. Install the hex nut to the blade bolt at the top of the cutter spindle. Secure the blades from rotating and torque to 75 lb-ft. See Figure 7-9.

7.10 TIRES

Check the tire pressures after every 8 hours of operation or daily.

Caster Wheels	Flat Free
Drive Wheels	12 PSI

7.11 CUTTER DECK GEARBOX

A. CHECKING LUBRICANT LEVEL

⚠ CAUTION

The cutter deck gearbox can reach high operating temperatures. Allow the cutter deck gearbox to cool before servicing.

The fluid level in the cutter deck gearbox should be checked after every 100 hours of operation or bi-weekly, whichever occurs first.

1. Lower the cutter deck to to its lowest position to gain access to the cutter deck gearbox.
2. Clean and remove the check plug from the side of the gearbox. See Figure 7-10.

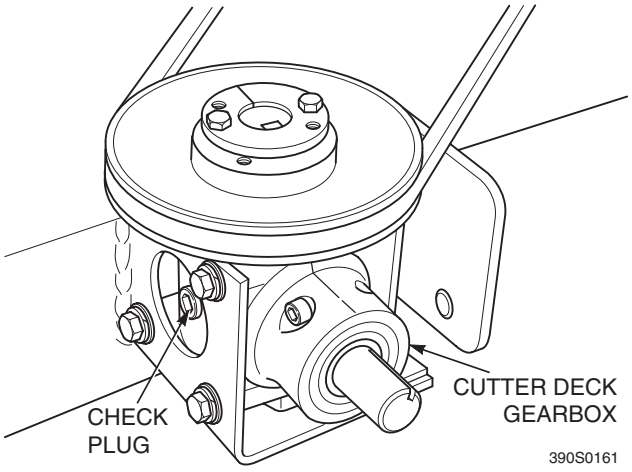


Figure 7-10. Cutter Deck Gearbox

3. Visually check that the lubricant level is up to the bottom edge of the check plug hole. If lubricant is low, add SAE 80W90 lubricant through the check plug hole in the gearbox until it is level with the bottom of the check plug hole. Install the check plug and tighten securely.

B. CHANGING LUBRICANT

The lubricant in the cutter deck gearbox should be changed after every 500 hours of operation or yearly, whichever occurs first.

1. Place a suitable container beneath the cutter deck gearbox and locate the gearbox drain plug.
2. Remove the drain plug, drain the lubricant into the container and properly discard it.
3. Re-install the drain plug and add SAE 80W90 lubricant through the check plug hole in the gearbox until it is level with the bottom of the check plug hole. Install the check plug and tighten securely.

7.12 COOLING SYSTEM

(LIQUID-COOLED MACHINES ONLY)

⚠ WARNING

To avoid burns, always allow the engine to cool before removing the radiator cap.

A. CHECKING COOLANT LEVEL

The coolant level should be checked before each day of operation.

1. Remove the radiator cap by turning it slowly counterclockwise to the first stop and allow any pressure to be released. Push down on the cap and turn counterclockwise to remove.
2. Visually check the coolant level. The coolant level should be up to the bottom of the filler neck as shown in Figure 7-11. Add a mixture of coolant and soft water as needed.

- NOTE -

Refer to the coolant manufacturer's instructions for the proper coolant mixture ratio.

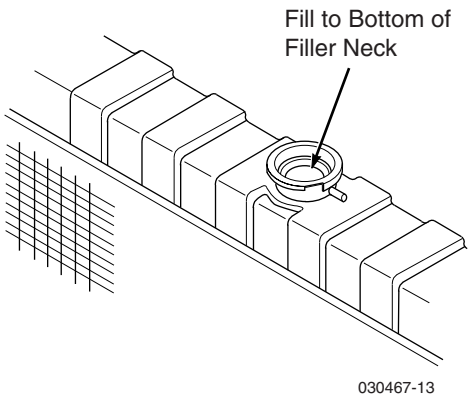


Figure 7-11. Coolant Level

3. Replace the radiator cap. Push down on the cap and turn clockwise until it stops.

- NOTE -

The cooling system should be flushed and the coolant replaced every 500 hours of operation or annually. See your Scag dealer for proper coolant replacement.

B. CLEANING THE RADIATOR DEBRIS SCREEN

After each day of operation, remove and clean the radiator debris screen.

⚠ CAUTION

To avoid personal injury, always wear safety glasses when using compressed air.

1. Pull the debris screen up to remove.
2. Clean the debris screen with compressed air or a water hose.

- NOTE -

Check the radiator for excessive debris and clean with compressed air. Never spray a hot engine with water, use only compressed air to remove debris.

3. Re-install the debris screen to the radiator.

C. CHECKING THE FAN BELT TENSION (LIQUID-COOLED ENGINES ONLY)

Periodically check the fan belt tension. The belt should deflect 1/2" with 10 pounds of pressure. See your Scag dealer if the belt is in need of adjustment or replacement.

7.13 BODY, DECK, AND UPHOLSTERY

⚠ CAUTION

Do not wash any portion of the equipment while it is hot. Do not wash the engine; use compressed air.

1. After each use, wash the mower and cutter deck. Use cold water and automotive cleaners. Do not use pressure cleaners.
2. Do not spray electrical components.
3. Use a mild soap solution or a vinyl/rubber cleaner to clean the seat.
4. Repair damaged metal surfaces using Scag touch-up paint available from your authorized Scag dealer. Wax the mower for maximum paint protection.

ILLUSTRATED PARTS LIST

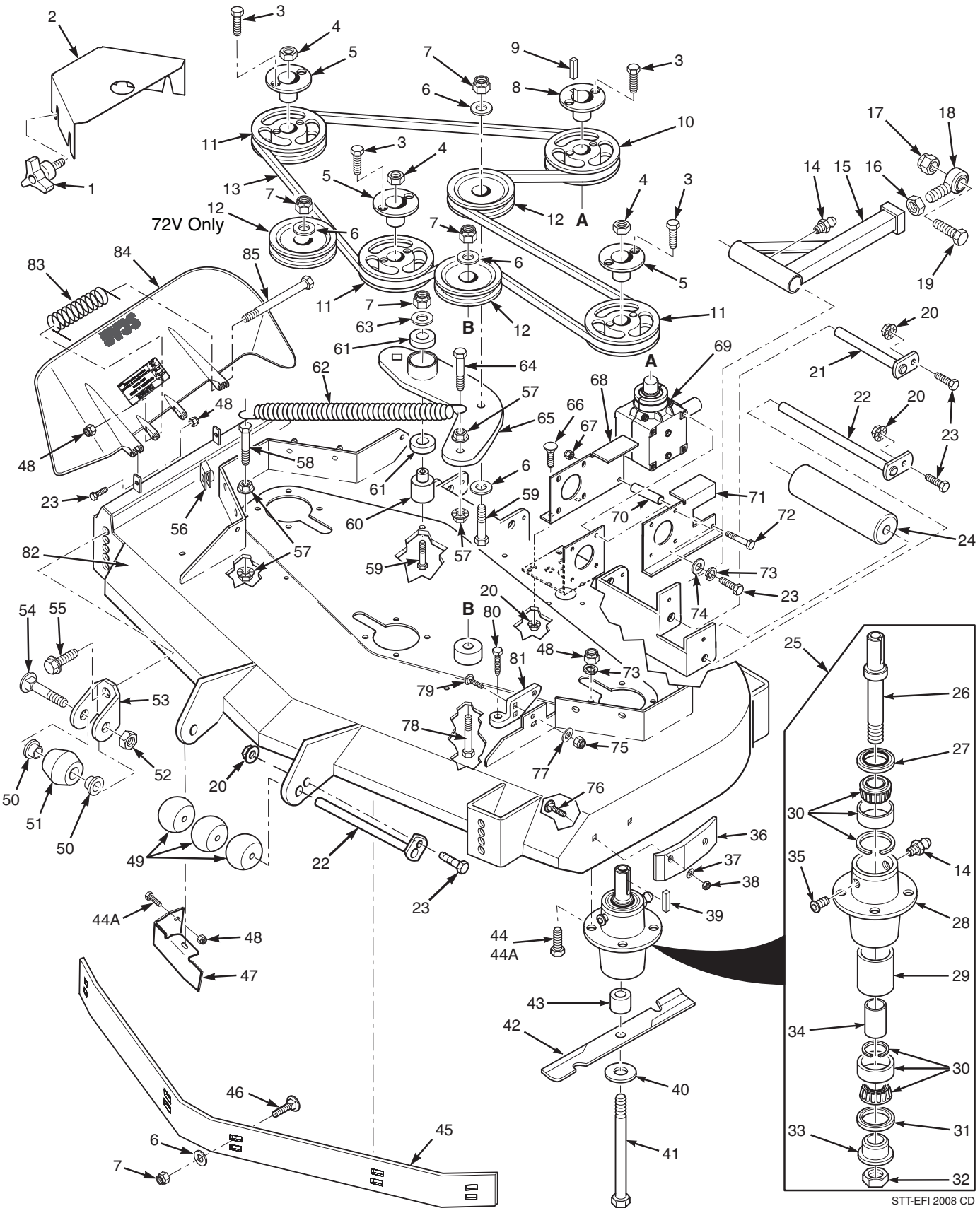
8.1 SCAG APPROVED ATTACHMENTS AND ACCESSORIES

Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine.

Scag approved attachments and accessories:

- GC-STT-61V (p/n 9076) - Requires p/n 9078
- GC-STT-CS61V(p/n 9077) - Requires p/n 9078
- Install GC-STT-61V (p/n 9078)
- Mulch Plate (p/n 9288, 920F)
- Hurricane Mulch (p/n 9285, 920E)
- STT Hitch (p/n 9242)
- STT Bumper (p/n 9256)
- STT Lights (p/n 9279)
- STT-OCDC-61V (p/n 921C)
- Tiger Striper (p/n 9269)
- Blade Buddy (p/n 9212)

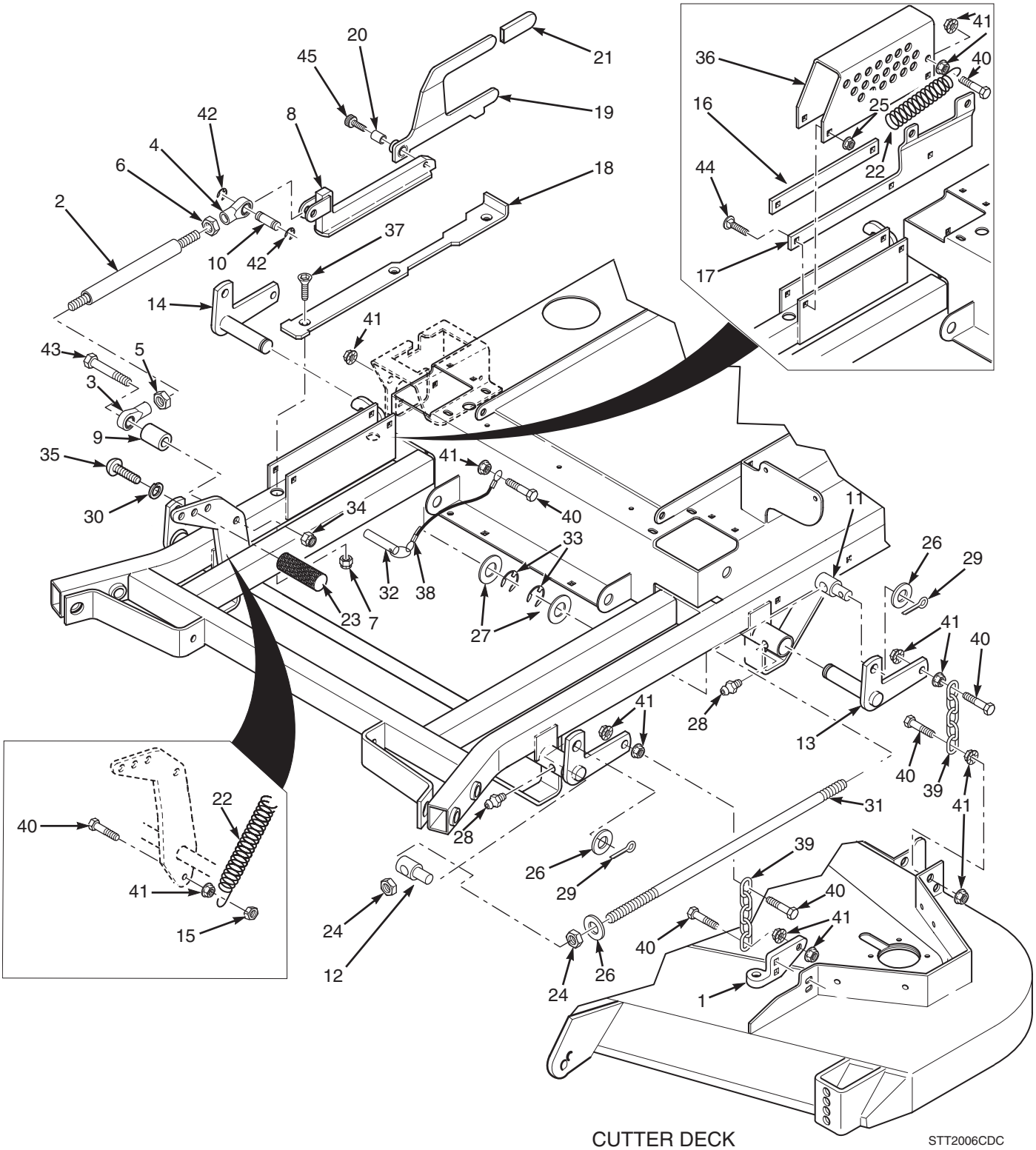
61V & 72VS CUTTER DECKS



61V & 72VS CUTTER DECKS

Ref. No.	Part No.	Description	61	72
1	481625-01	Wing Nut, 3/8-16	X	X
2	424325	Belt Cover	X	
	422708	Belt Cover RH		X
	422677	Belt Cover LH		X
3	04001-172	Bolt, Hex Head 1/4-20 x 1" Grd 8	X	X
4	04020-09	Nut, 5/8-11 UNC	X	X
5	48926	Tapered Hub, 1-1/8" Bore	X	X
6	04041-07	Flatwasher, 3/8" (.391 x .938 x .105)	X	X
7	04021-09	Nut, Hex Elastic Stop 3/8-16	X	X
8	48141	Tapered Hub, 1" Bore	X	X
9	04063-0	Key, 1/4 x 1/4 x 1-1/4"	X	X
10	482746	Pulley, 6.75 O.D.	X	
	482745	Pulley, 6.35 O.D.		X
11	482745	Pulley, 6.35 O.D.	X	
	482747	Pulley, 6.95 O.D.		X
12	483215	Pulley, Idler	X	X
13	481558	Belt, Cutter Deck Drive	X	
	481980	Belt, Cutter Deck Drive		X
14	48114-04	Grease Fitting	X	X
15	461516	Pusharm (incl. items 14, 16, & 18)	X	X
16	04020-16	Nut, Hex Head 5/8-18 UNF	X	X
17	04021-13	Nut, Hex Elastic Stop 5/8-11	X	X
18	48763	Rod End, 5/8" Male RH Thread	X	X
19	04001-79	Bolt, Hex Head 5/8-11 x 4-1/2"	X	X
20	04019-03	Nut, Hex Serrated Flange 5/16-18	X	X
21	451240	Push Arm Shaft	X	X
22	45944	Roller Shaft	X	X
23	04001-12	Bolt, Hex Head 5/16-18 x 1-3/4"	X	X
24	48038	Wheel, Anti-Scalp	X	X
25	461663	Spindle Assembly	X	X
26	43589	Spindle Shaft	X	X
27	481024	Seal, Top	X	X
28	43644	Spindle Housing	X	X
29	43312	Spacer, Outside	X	X
30	481022	Bearing Assembly	X	X
31	481025	Seal, Bottom	X	X
32	481035	Nut, Special 1-1/16-18	X	X
33	43297	Spindle Bushing, Bottom	X	X
34	43296	Spacer, Inside	X	X
35	48677	Relief Fitting, Tapered Spindle	X	X
36	483176	Wear Pad	X	
	483174	Wear Pad		X
37	04040-04	Flatwasher, 5/16"	X	X
38	04021-04	Nut, Center Lock 5/16-18	X	X
39	04063-08	Key, 1/4 x 1/4 x 2"	X	X
40	04043-06	Flatwasher, 5/8" Hardened	X	X
41	04001-41	Bolt, Hex Head 5/8-11 x 9-1/2"	X	X
42	482879	Cutter Blade, 21"	X	
	482881	Cutter Blade, 21" (35BVAC)	X	
	482882	Cutter Blade, 24.5"		X
43	43590	Spacer, Spindle Bottom	X	X
44	04001-176	Bolt, Hex Head 5/16-18 x 1-3/4"	X	X
45	424841	Baffle, Custom Cut 61V	X	
	424917	Baffle, Custom Cut 72V		X
46	04003-23	Bolt, Carriage 3/8-16 x 1"	X	X
47	424209	Discharge Baffle 61V	X	X
	424856	Discharge Baffle 72V	X	X
48	04021-22	Nut, Hex Elastic Stop 5/16-18 Grd 8	X	X
49	482295	Wheel, Anti-Scalp	X	X
50	48100-15	Bushing, .376 I.D. Oilite	X	X
51	481632	Anti-Scalp Wheel	X	X
52	04021-05	Locknut, 3/8-16 Center Lock	X	X
53	422478	Anti-Scalp Wheel Bracket	X	X
54	04003-26	Bolt, Carriage 3/8-16 x 4"	X	X
55	04017-27	Bolt, Hex Serrated Flange 3/8-16 x 1"	X	X
56	04110-03	U-Nut, 3/8-16	X	X
57	04019-04	Nut, Hex Serrated Flange 3/8-16	X	X
58	04001-20	Bolt, Hex Head 3/8-16 x 1-1/2"	X	X
59	04001-54	Bolt, Hex Head 3/8-16 x 3"	X	X
60	43503	Pivot, Idler - Short	X	X
61	48224	Bearings, Ball	X	X
62	483704	Spring, Cutter Deck	X	X
63	04043-04	Flatwasher,3/8-.39 x .938 x .105 HD	X	X
64	04001-136	Bolt, Hex Head 3/8-16 x 1-1/2" Grd 8	X	X
65	461842	Idler Arm, Cutter Deck	X	X
66	04003-12	Bolt, Carriage 5/16-18 x 3/4"	X	X
67	04021-10	Nut, Elastic Stop 5/16-18	X	X
68	424798	Mounting Plate, RH Gearbox	X	X
69	482486	Gearbox Assembly, Deck Drive	X	X
70	43763	Spacer, Gearbox Mount	X	X
71	424799	Mounting Plate, LH Gearbox	X	X
72	04001-154	Bolt, Hex Head 5/16-18 x 4-3/4"	X	X
73	04030-03	Lockwasher, 5/16"	X	X
74	04040-15	Flatwasher, 5/16" (.375 x .875 x .083)	X	X
75	04021-11	Nut, Elastic Stop 7/16-14	X	X
76	04003-12	Bolt, Carraige 5/16-18 x 3/4"	X	X
77	04040-11	Flatwasher, 7/16-.500 x 1.25 x .083	X	X
78	04001-62	Bolt, Hex Head 3/8-16 x 3-1/4"	X	X
79	04003-40	Bolt, Carriage 7/16-14 x 1-1/4"	X	X
80	483167	Bolt, Deck Adjust	X	X
81	461929	Lever Assy, Deck Level (Incl. 80)	X	X
82	461863	Cutter Deck 61 V w/Decals	X	
	462144	Cutter Deck 72 V w/Decals		X
83	483378	Spring, Discharge Chute	X	X
84	461846	Discharge Chute 61V	X	
	462132	Discharge Chute 72V		X
85	04001-108	Bolt, Hex Head 5/16-18 x 4-1/2"	X	X

CUTTER DECK CONTROLS

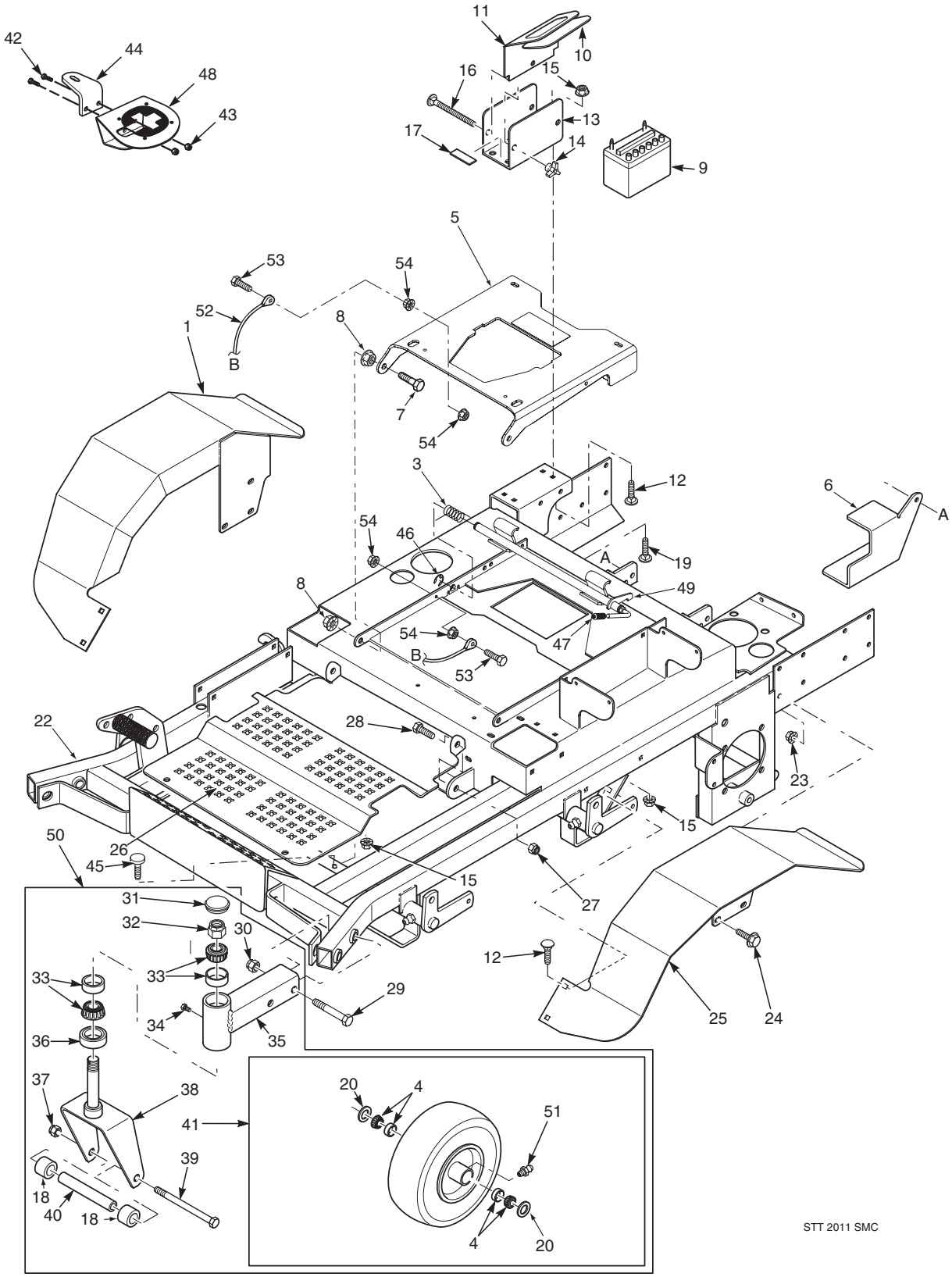


CUTTER DECK STT2006CDC

CUTTER DECK CONTROLS

Ref. No.	Part No.	Description
1	461929	Lever Assembly, Deck Level
2	481764	Link, Deck Lift
3	481765	Rod End, Female - 1/2-20 RH
4	481766	Rod End, Female - 1/2-20 LH
5	04020-27	Nut, Jam 1/2-20 RH
6	04020-28	Nut, Jam 1/2-20 LH
7	04021-09	Nut, 3/8-16 Elastic Stop
8	482429	Slide Weldment, Height Adjustment
9	43391	Spacer, Decklift Pedal
10	43487	Pin, Decklift
11	43526	Swivel Joint, LH
12	43527	Swivel Joint, RH
13	45904	Bellcrank Weldment, LH Rear
14	45905	Bellcrank Weldment, RH Rear
15	04021-05	Locknut, 3/8-16 Center Lock
16	422381	Guide, Short
17	423509	Guide, Long
18	422346	Lockplate, Decklift
19	46975	Deck Latch (Incl. 20 & 21)
20	48100-14	Bushing, .502" I.D.
21	481428	Grip, Deck Latch
22	481598	Spring, Helper (61" & 72" Cutter Decks Only)
23	424504	Foot Pedal, Height Adjustment
24	04020-09	Nut, Hex 5/8-11
25	04019 -03	Nut, Hex Serr. Flng. 5/16-18
26	04040-09	Flatwasher, 5/8" (.656 x 1.312 x .095")
27	04041-14	Flatwasher, 1" (1.062 x 1.50 x .048")
28	48114-04	Grease Fitting
29	04061-07	Cotter Pin, 3/16 x 1"
30	04030-07	Lockwasher, 5/8"
31	04004-44	Stud, 5/8-11 x 22.0"
32	04067-09	Ring Pin, 1/2 x 3.06"
33	04050-08	Ring, Retaining 1" External "E"
34	04021-07	Nut, Hex Elastic Stop 1/2-13
35	04105-01	Capscrew, 5/8-11 x 1-1/2"
36	423463	Bracket, Cutting Height Adjustment
37	04014-03	Screw, Cap 5/16-18 x 3" FHHS
38	481547	Lanyard, Deck Height Pin
39	48540	Chain
40	04001-20	Bolt, Hex Hd. 3/8-16 x 1-1/2"
41	04019-04	Nut, Hex Serr. Flng. 3/8-16
42	04050-10	Ring, Retaining 1/2" External "E"
43	04001-74	Bolt, Hex Hd. 1/2-13 x 3"
44	04003-04	Bolt, Carriage 5/16-18 x 1"
45	04009-02	Bolt, Shoulder 1/2 x 3/4"

SHEET METAL COMPONENTS

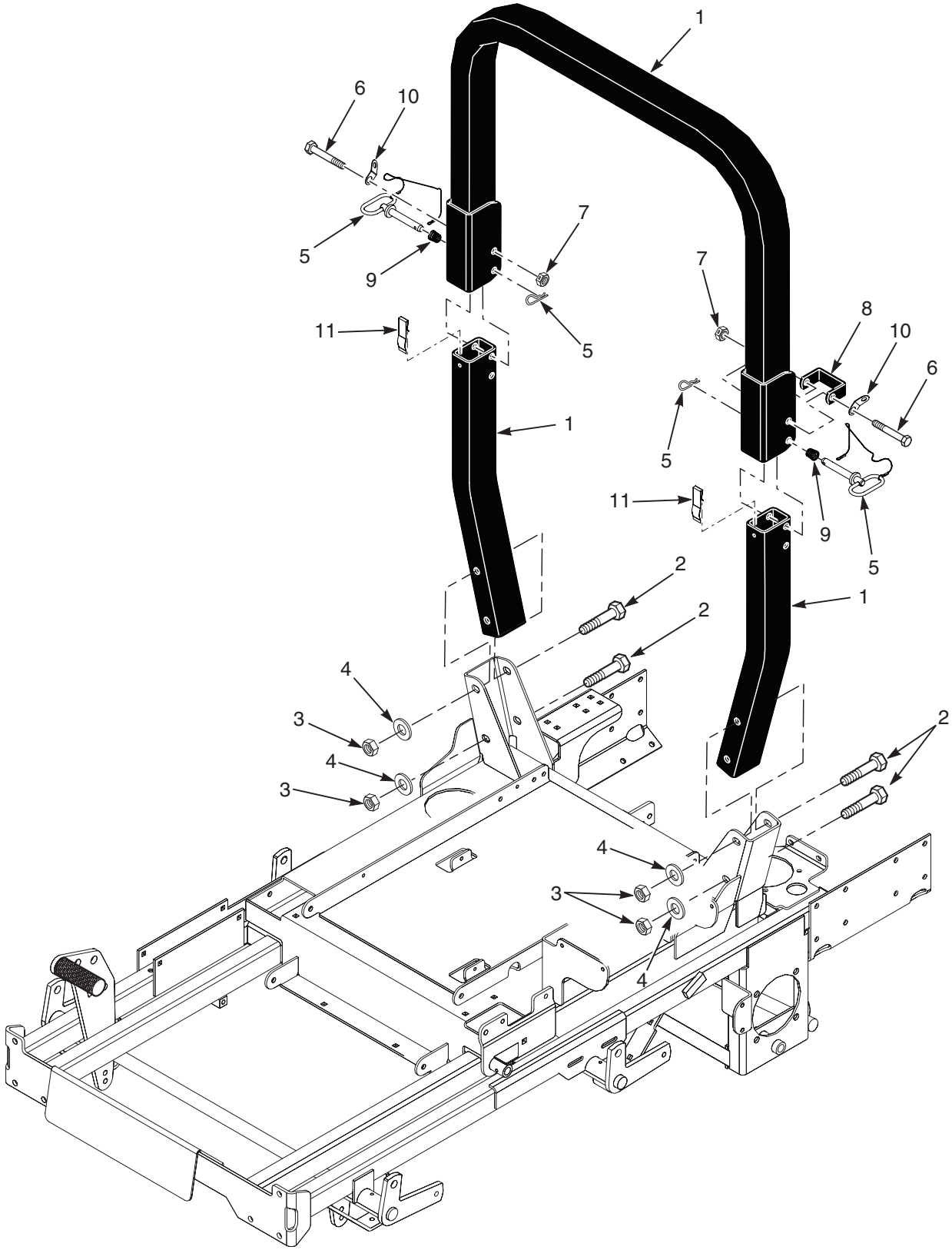


SHEET METAL COMPONENTS

Ref. No.	Part No.	Description
1	451481	Fender Weldment, RH
2	04001-09	Bolt, Hex Head, 5/16-18 x 1, Zinc
3	483371	Spring, Seat Latch
4	482621	Bearing w/ Race
5	491729	Seat Plate w/Decal
6	424819	Guard, Fuel Line
7	04001-117	Bolt, Hex Head 7/16-14 x 1-3/4”
8	04019-05	Nut, 7/16-14 Serrated Flange
9	*	Battery (not avail. through Scag)
10	48903	Pad, Battery Cover
11	421274	Cover, Battery
12	04003-12	Bolt, Carriage 5/16-18 x 3/4”
13	423308	Plate, Battery Box
14	04029-01	Wing Nut, 1/4-20 x 3/4”
15	04019-03	Nut, Hex Serrated Flange 5/16-18
16	04003-01	Bolt, Carriage 1/4-20 x 6”
17	48661	Rubber Pad
18	43584	Spacer, Caster Wheel
19	04003-04	Bolt, Carriage 5/16-18 x 1”
20	482622	Seal
21	04021-09	Locknut, 3/8-16, Elast. Stop
22	462329	Main Frame w/Decals
23	04019-04	Nut, Hex Serrated Flange 3/8-16
24	04017-27	Screw, Hex Serrated Flange 3/8-16 x 1”
25	451480	Fender Weldment, LH
26	423489	Foot Plate
27	04021-09	Nut, Hex Elastic Stop 3/8-16
28	04001-19	Bolt, Hex Head 3/8-16 x 1”
29	04001-125	Bolt, Hex Head 5/8-11 x 4”
30	04021-13	Nut, Hex Elastic Stop 5/8-11
31	484195	Cap, Grease
32	04021-20	Nut, Hex Elastic Stop 1.0-14
33	481657	Bearing W/Race
34	482028-01	Plug, 1/4-28 THD Form
35	452198	Extention Weldment, Caster 61V (LH)
	452199	Extention Weldment, Caster 61V (RH)
	452200	Extention Weldment, Caster 72VS (LH)
	452201	Extention Weldment, Caster 72VS (RH)
36	481025	Seal, 2.00” OD. x 1.625” Bore
37	04021-07	Nut, Hex Elastic Stop 1/2-13
38	451416	Yoke Weldment, Caster (61V & 72A/VS)
39	04001-167	Bolt, Hex Head 1/2-13 x 9-1/2” (61V & 72A/VS)
40	43583	Sleeve, Caster Wheel (61V, 72A/VS)
41	9278	Wheel Assy, 61V, 72V (Incl. 20, 54, 55)
42	04001-01	Bolt, Hex Head 1/4-20 x 3/4”
43	04001-01	Bolt, Hex Head 1/4-20 x 3/4”
44	423674	Mounting Bracket, STT Cup Holder
45	481284	Bumper, Rubber

Ref. No.	Part No.	Description
46	04050-01	Retaining Ring, .625” Ext. “E”
47	484341	Grip, Seat Latch
48	9240	Cup Holder Assembly
49	491731	Lever Assembly, Seat Release
50	462314	Caster Wheel Assembly (Incl. 31 thru 43) 61V (LH)
	462315	Caster Wheel Assembly (Incl. 31 thru 43) 61V (RH)
	462316	Caster Wheel Assembly (Incl. 31 thru 43) 72VS (LH)
	462317	Caster Wheel Assembly (Incl. 31 thru 43) 72VS (RH)
51	48114-10	Grease Fitting
52	48566	Cable, Seat Stop
53	04001-02	Bolt, Hex Head 1/4-20 x 1-1/4”
54	04019-02	Nut, Serrated Flange 1/4-20

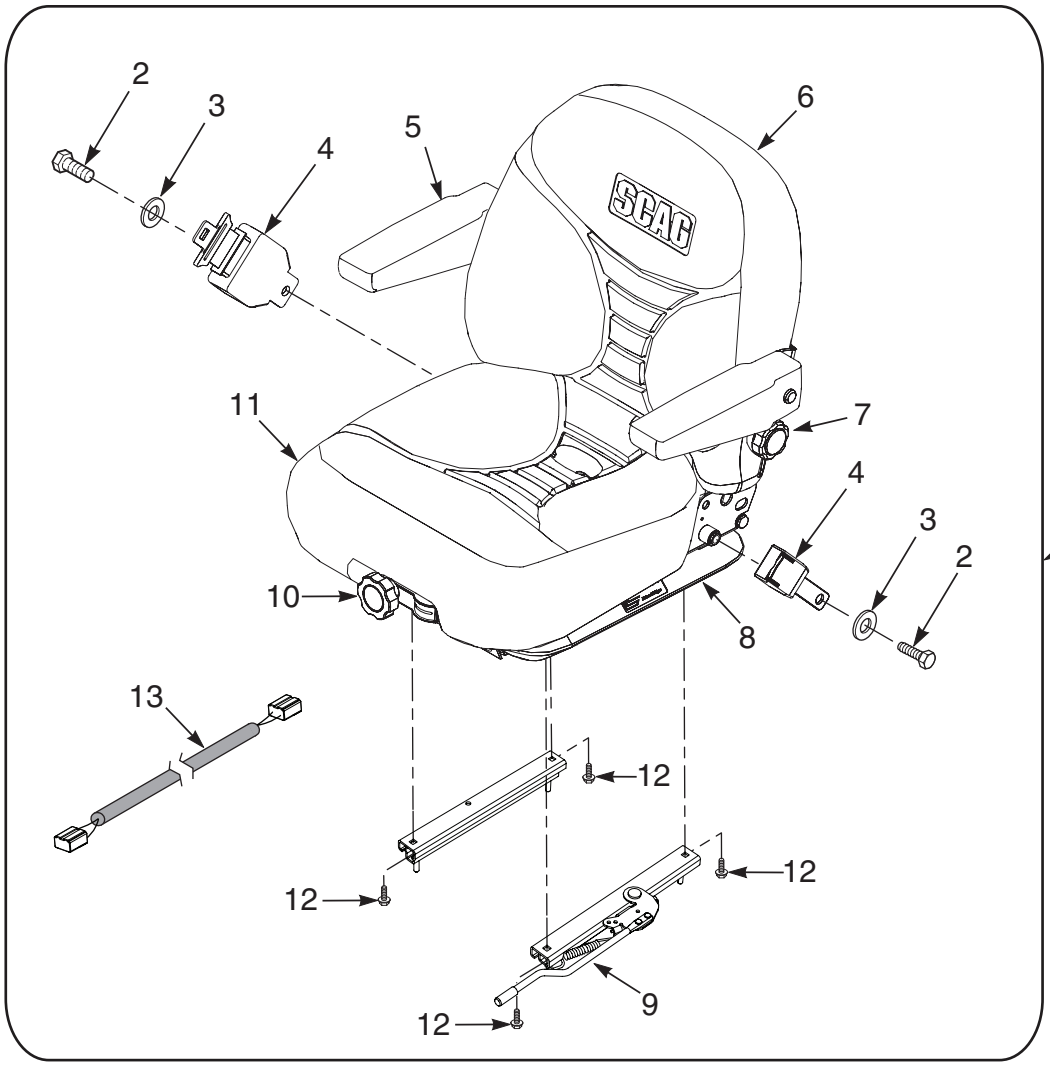
STT ROLL-OVER PROTECTION SYSTEM



STT ROLL-OVER PROTECTION SYSTEM

Ref. No.	Part No.	Description
1	462210	STT, ROPS
2	04001-87	Bolt, Hex Head 1/2-13 x 4”
3	04021-19	Nut, Center Lock 1/2-13
4	04040-13	Flatwasher, 1/2-.562 x 1.375 x .109
5	484168	Pin Assembly (incl. #9 & #10)
6	04001-163	Bolt, Hex Head 1/2-13 x 3-3/4”
7	04021-19	Nut, Center Lock 1/2-13
8	425478	Stop Bracket, ROPS
9	484170	Spring, ROPS
10	484169	Clip, ROPS
11	484167	Spring Clip, ROPS

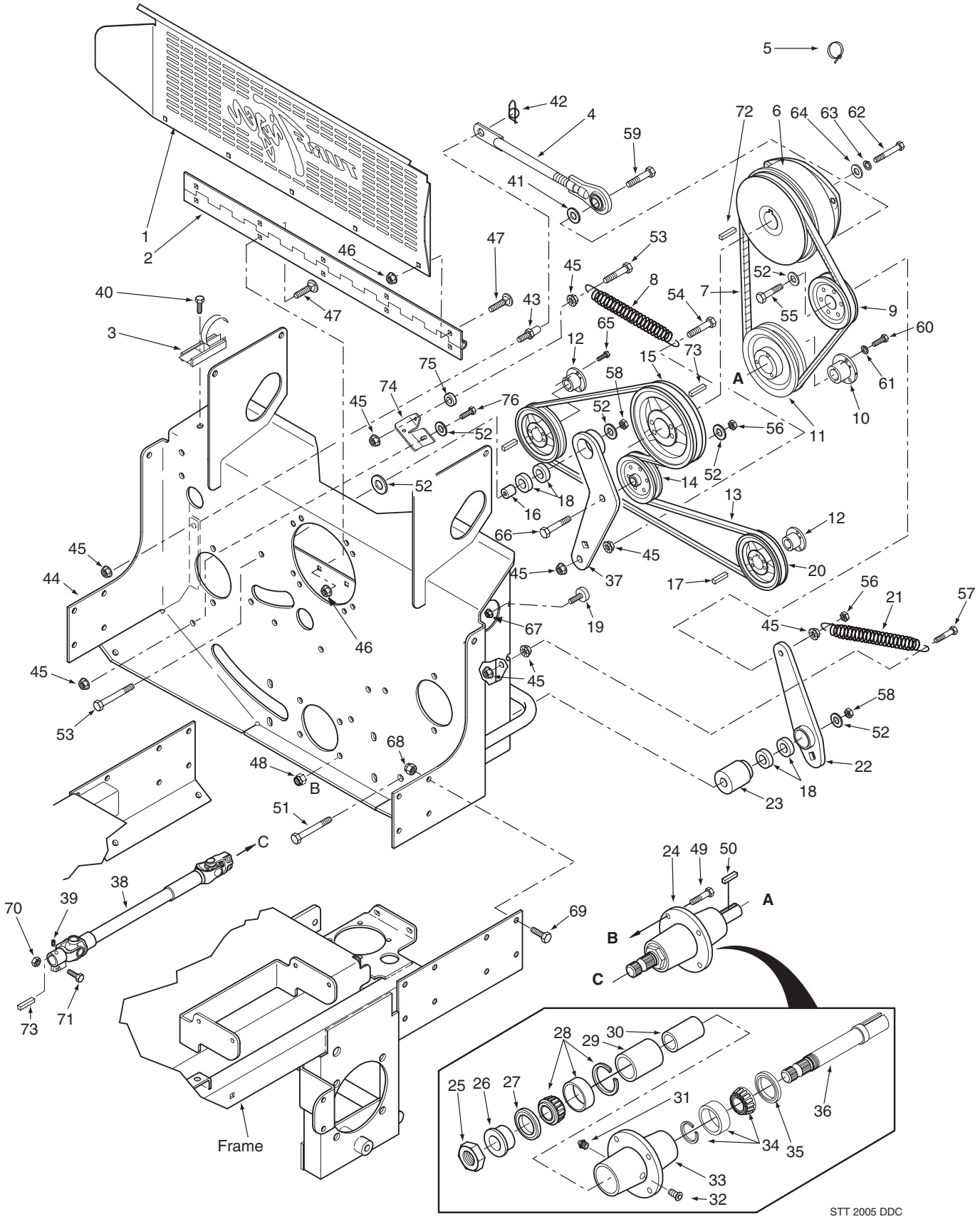
STT SUSPENSION SEAT



Ref. No.	Part No.	Description
1	9292	Suspension Seat Assembly w/seat belt
2	04001-178	Bolt, Hex Head 7/16-20 x 1”
3	04040-11	Flatwasher, 7/16-.500 x 1.25 x .083
4	483594	Retractable Seat Belt
5	482950	Armrest Only
	482945	Armrest Assembly Kit, LH
	482946	Armrest Assembly Kit, RH
6	482940	Back Cushion Kit
7	482943	Lumbar Kit
	482948	Knob Kit
8	482942	Shock Absorber Kit
9	482952	Seat Adjustment, Track Set
10	482944	Weight Adjustment Kit
	482948	Knob Kit
11	482941	Seat Cushion Kit
		Seat Drain Kit (Included with Seat Cushion)
12	04001-12	Bolt, Hex Head 5/16-18 x 1-3/4"
13	483440	Wire Harness Adapter

NOTES

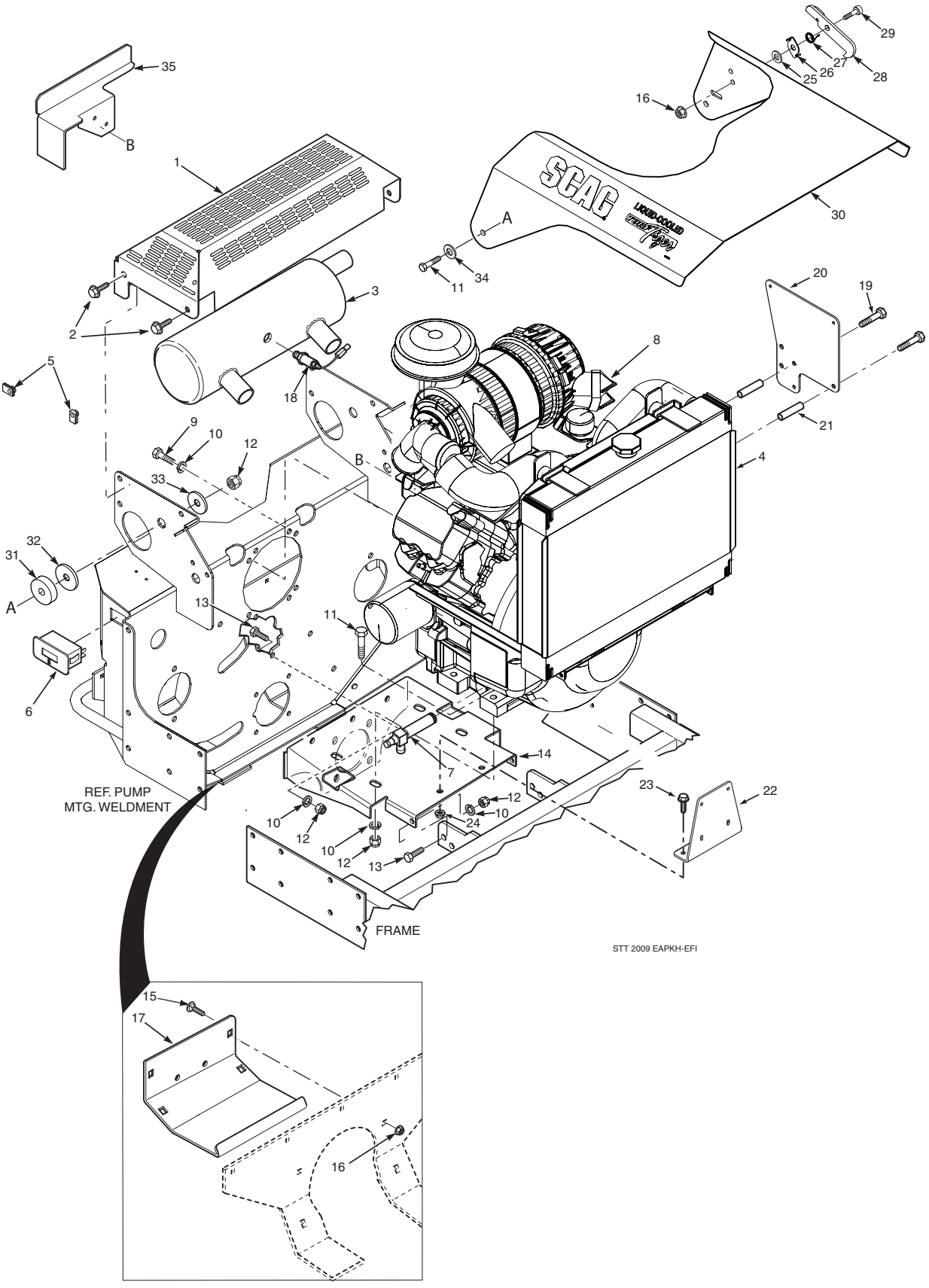
DECK DRIVE COMPONENTS



DECK DRIVE COMPONENTS

Ref. No.	Part No.	Description
1	423925	Belt Guard, Rear
2	481531	Hinge, Belt Guard
3	481309	Latch, Hood
4	482845	Rod Assembly, Clutch Anti-Rotation
5	48030-09	Clamp, Cable
6	461661	Clutch, Ogura GT-3.5
7	482876	Belt, Deck Drive
8	483088	Spring, Transmission Idler
9	48181	Pulley, Idler 5” Dia.
10	481536	Tapered Hub, 1” Bore
11	482949	Pulley, 6.70” Tapered Bore
12	481884	Tapered Hub, 17mm Bore
13	483678	Belt, Pump Drive
14	483214	Pulley, Idler 4” Dia.
15	483675	Pulley, 5.367” Dia. - 1.125” Bore
16	43631	Spacer, Idler Bearing
17	04063-14	Key, 5.0 x 5.0 x 25mm
18	48224	Ball Bearing
19	481284	Bumper, Rubber
20	482744	Pulley, 5.75” O.D.
21	482667	Spring, PTO
22	461609	Idler Arm Weldment, PTO Drive
23	43632	Pivot, Idler PTO
24	461697	Spindle Assembly, Deck Drive
25	481035	Nut, 1.06-18 Thread
26	43297	Spindle Bushing, Bottom
27	481025	Seal, 2.0” O.D. x 1.625” Bore
28	481022	Roller Bearing Tapered
29	43312	Spacer, Outside
30	43296	Spacer, Inside
31	48114-04	Grease Fitting, 1/4-28
32	48677	Relief Fitting
33	43644	Spindle Housing
34	481022	Roller Bearing Tapered
35	481024	Seal, 2.0” O.D. x 1.5” Bore
36	43534	Shaft, Deck Drive
37	461608	Idler Arm Weldment, Pump Drive
38	482438	Driveshaft (Liquid-Cooled Engine)
39	04012-08	Set Screw, 3/8-16 x 3/4” Torx Socket
40	04011-11	Screw, #10-32 x .56
41	04041-07	Flatwasher, 3/8 (.391 x .938 x .105”)
42	04069-01	Pin, Rue Cotter 3/8” Dia.
43	43507	Stud, Anti Rotation
44	461801	Pump Mounting Plate Weld. (Liquid-Cooled)
45	04019-04	Nut, Serr. Flng. 3/8-16
46	04019-02	Nut, Serr. Flng. 1/4-20
47	04003-07	Bolt, Carriage 1/4-20 x 1/2”
48	04021-22	Nut, Elastic Stop 5/16-18 Grd. 8
49	04001-176	Bolt, Hex Hd. 5/16-18 x 1-3/4” Grd. 8
50	04063-06	Key, 1/4 x 1/4 x 1-1/2”
51	04001-171	Bolt, Hex Hd. 3/8-16 x 4-1/2” Grd. 8 Black
52	04043-04	Washer, 3/8” Hardened
53	04001-135	Bolt, Hex Hd. 3/8-16 x 1-3/4” Grd. 8 Black
54	04001-136	Bolt, Hex Hd. 3/8-16 x 1-1/2” Grd. 8 Black
55	04001-170	Bolt, Hex Hd. 3/8-16 x 2-1/2” Grd.8
56	04021-05	Nut, Center Lock 3/8-16
57	04001-136	Bolt, Hex Hd. 3/8-16 x 1-1/2” Grd. 8 Black
58	04021-09	Nut, Elastic Stop 3/8-16
59	04001-45	Bolt, Hex Hd. 3/8-16 x 2”
60	04001-109	Bolt, Hex Hd. 1/4-20 x 1-3/8”
61	04030-02	Lockwasher, 1/4” Spring
62	04001-101	Bolt, Hex Hd. 7/16-20 x 2-1/2” UNF
63	04030-05	Lockwasher, 7/16” Spring
64	04041-28	Flatwasher, 7/16 (.469 x 1.75 x .25”)
65	04001-172	Bolt, Hex Hd. 1/4-20 x 1” Grd. 8
66	04001-21	Bolt, Hex Hd. 3/8-16 x 1-3/4”
67	04019-03	Nut, Serr. Flng. 5/16-18
68	04021-09	Nut, Elastic Stop 3/8-16
69	04001-19	Bolt, Hex Hd. 3/8-16 x 1”
70	04021-05	Nut, Center Lock 3/8-16
71	04001-21	Bolt, Hex Hd. 3/8-16 x 1-3/4”
72	04063-02	Key, 1/4 x 1/4 x 2-1/4”
73	04063-20	Key, 1/4 x 1/4 x 1”
74	424138	Bracket
75	43063	Spacer
76	04001-19	Bolt, Hex Hd. 3/8-16 x 1”

ENGINE & ATTACHING PARTS - 31HP-EFI KOHLER

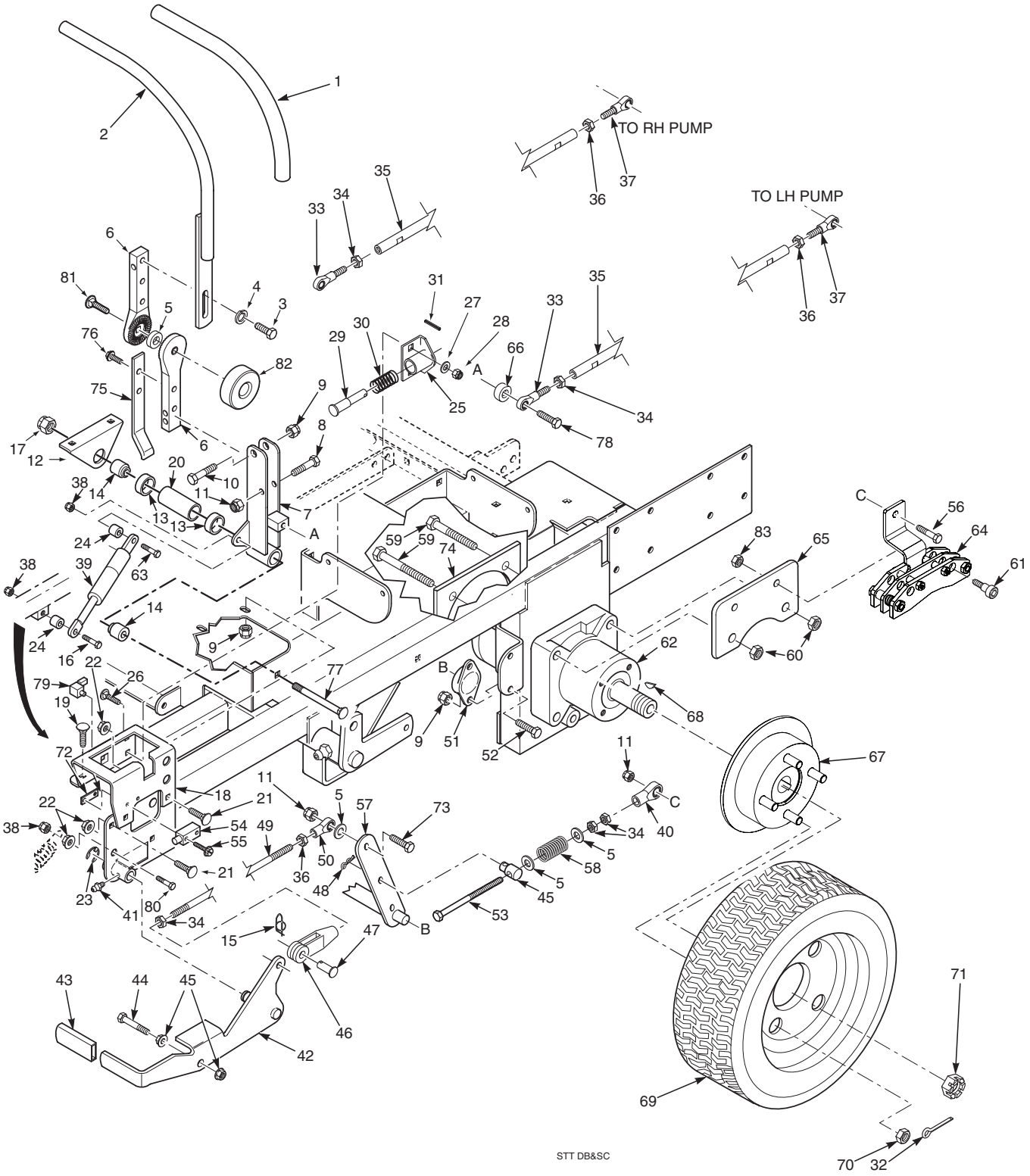


ENGINE & ATTACHING PARTS - 31HP-EFI KOHLER

Ref. No.	Part No.	Description
1	424910	Muffler Guard (Kohler)
2	04017-05	Screw, Hex Serr. Flng. 1/4-20 x 3/4”
3	**	Muffler (Available only through Kohler)
4	451997	Screen Weldment, Radiator (Kohler)
5	04110-01	U-Nut, 1/4-20
6	483355	Hour Meter
7	482510	Oil Drain Extension
8	483687	** Engine, Kohler 31HP-EFI Aegis (Available only through Kohler)
9	04001-19	Bolt, Hex Hd. 3/8-16 x 1”
10	04030-04	Lockwasher, 3/8” Spring
11	04001-21	Bolt, Hex Hd. 3/8-16 x 1-3/4”
12	04021-09	Nut, Hex Elastic Stop 3/8-16
13	04001-32	Bolt, Hex Hd. 3/8-16 x 1-1/4”
14	451454	Plate, Engine Mounting
15	04003-12	Bolt, Carriage 5/16-18 x 3/4”
16	04019-03	Nut, Hex Serr. Flng. 5/16-18
17	424691	Rear Cover
18	**	o2 Sensor (Available through Kohler Only)
19	04002-23	Bolt, Hex Hd. M6-1.0 X 90mm
20	424888	Mounting Bracket, ECU Kohler EFI
21	43774	Spacer, ECU Mounting
22	424889	Mounting Bracket, Fuel Pump Kohler EFI
23	04017-05	Bolt, Hex Hd. 1/4-20 x 3/4”
24	04019-02	Nut, Serr. Flng. 1/4-20
25	04040-05	Flatwasher, 3/8-.406 x .812 x .065
26	424634	Lock, Hood Latch
27	483507	Spring, Hood Latch
28	424633	Latch, Hood
29	04009-07	Bolt, Shoulder 5/16-18 x 1/2”
30	462157	Hood Assembly w/Decals (Incl. 16, 25, 26, 27, 28, 29)
31	43740	Spacer, Hood
32	483471	Disc, Anti-Friction
33	04041-11	Flatwasher, 3/8-.406 x 1.50 x 7 Gauge
34	04041-07	Flatwasher, 3/8-.391 x .938 x .105
35	425141	Heatshield, Throttle Cable

** Available through the individual engine manufacturer.

BRAKE AND STEERING COMPONENTS

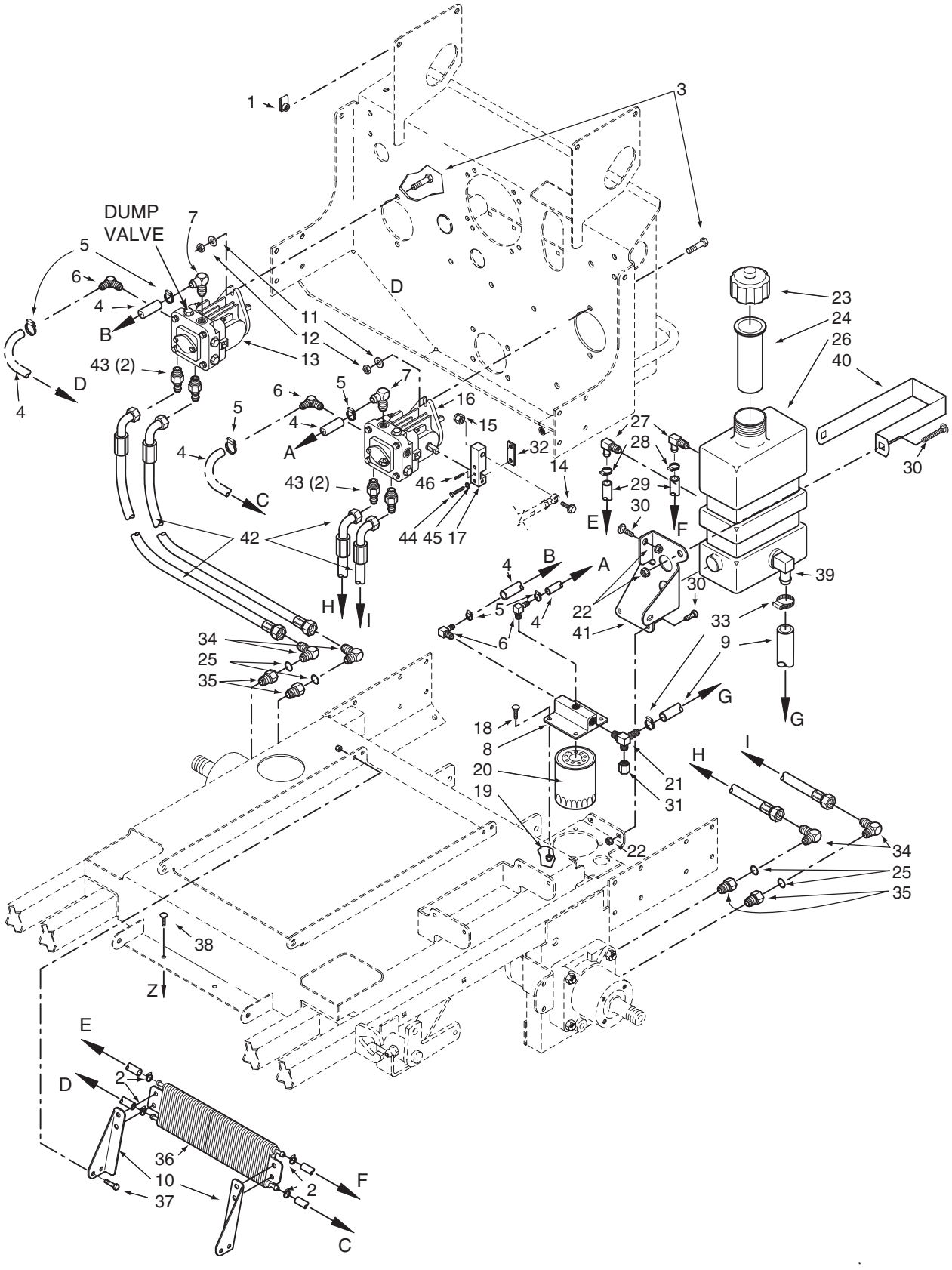


BRAKE AND STEERING COMPONENTS

Ref. No.	Part No.	Description
1	482340	Grip, Handle Bar
2	461914	Handle Bar, LH (Incl. item 1)
	461923	Handle Bar, RH (Incl. item 1)
3	04001-09	Bolt, Hex Hd. 5/16-18 x 1”
4	04030-03	Lockwasher, 5/16”
5	483250	Rubber Spacer
6	483238	Bar, Control Lever
7	451483	Control Lever Weldment, LH
	451484	Control Lever Weldment, RH
8	04001-17	Bolt, Hex Hd. 5/16-18 x 2”
9	04021-10	Nut, Hex Elastic Stop 5/16-18
10	04001-45	Bolt, Hex Hd. 3/8-16 x 2”
11	04021-09	Nut, Hex Elastic Stop
12	423488	Mount, Control Linkage
13	48224	Ball Bearings, Neutral Return
14	43607	Spacer
15	04069-01	Pin, Rue Cotter 3/8” Dia.
16	04001-13	Bolt, Hex Hd., 5/16-18 x 2.75 Zinc
17	04021-13	Nut, Hex Elastic Stop 5/8-11
18	461601	Bracket, Control Lever LH
	461602	Bracket, Control Lever RH
19	04003-04	Bolt, Carriage 5/16-18 x 1”
20	43600	Spacer, Bearing
21	04003-12	Bolt, Carriage 5/16-18 x 3/4”
22	04019-03	Nut, Hex Serr. Flng. 5/16-18
23	04050-01	Ring, Retaining 5/8” External “E”
24	43602	Spacer
25	45918	Bracket, Neutral Return
26	04003-02	Bolt, Carriage 1/4-20 x 3/4”
27	04040-14	Flatwasher, 1/4” (.312 x .750 x .065”)
28	04021-08	Nut, Hex Elastic Stop 1/4-20
29	43477	Pin, Retaining Spring
30	481389	Spring
31	04060-01	Roll Pin, Spring 5/32 x 3/4”
32	04061-06	Pin, Cotter 9/16 x 1-1/2”
33	482586	Rod End, Male 3/8-24 RH Thread
34	04020-25	Nut, 3/8-24 RH Thread
35	43624	Tube, Control Link Liquid-Cooled Engine
36	04020-26	Nut, Hex 3/8-24 LH Thread
37	482585	Rod End, Male 3/8-24 LH Thread
38	04021-10	Locknut, 5/16-18, Elastic Stop
39	484151	Gas Damper
40	482330	Rod End, 3/8-24 RH Female
41	48114-04	Grease Fitting
42	461082	Lever, Parking Brake (Incl. 43)
43	481548	Grip, Parking Brake
44	04001-22	Bolt, Hex Hd. 3/8-16 x 2-3/4”
45	43773	Swivel Joint

Ref. No.	Part No.	Description
46	48343-04	Clevis, Traction Control
47	04064-02	Pin, Clevis 3/8-16 x 1-1/16”
48	04062-01	Hair Pin Cotter
49	04004-34	Rod, Parking Brake
50	48544	Rod End, LH Thread
51	482061	Bushing, Self Align
52	04001-08	Bolt, Hex Hd. 5/16-18 x 3/4”
53	04001-192	Bolt, Hex Hd 3/8-24 x 5-1/2”
54	481637	Switch
55	04010-12	Screw, Hex Sltd. Wshr. Hd. #10 32 x 3/4”
56	451970	Brake Linkage, LH
	451971	Brake Linkage, RH
57	45953	Bellcrank, Brake Actuator
58	48807	Spring
59	04001-190	Bolt, Hex Hd. 1/2-13 x 2-3/4” (upper)
	04001-52	Bolt, Hex Hd. 1/2-13 x 2-1/2” (lower)
60	04021-19	Locknut, Hex 1/2-13 Center Lock
61	04009-13	Bolt, Shoulder 3/8-16 x 2-1/2”
62	484108	Wheel Motor, Parker
63	04001-12	Bolt, Hex Hd., 5/16-18 x 1.75”, Zinc
64	483701	Brake Caliper
65	424894	Mounting Bracket, Brake
66	43063	Spacer
67	461438	Wheel Hub/Disk Brake Assembly
68	04063-25	Key, Woodruff 5/16 x 1”
69	481850	Wheel Assembly 24 x 12-12 Turf Master
	481851	Rim w/Valve Stem
	481852	Tire, 24 x 12-12 Turf Master
70	04028-02	Lug Nut, 1/2-20
71	48680	Nut, Hex Castle
72	422373	Threaded Plate
73	04001-20	Bolt, Hex Hd. 3/8-16 x 1-1/2”
74	423279	Plate Weldment, Motor Backing
75	423491	Actuator Switch
76	04017-16	Bolt, Hex Serr. Flng. 5/16-18 x 3/4”
77	04003-36	Bolt, Carriage 3/8-16 x 4-3/4”
78	04001-19	Bolt, Hex Hd. 3/8-16 x 1”
79	481638	Switch
80	04001-168	Bolt, Hex Hd. 3/8-16 x 1-1/4” Grd. 8
81	04003-38	Bolt, Carriage 5/16-18 x 1-1/2”
82	483269	Knob
83	04021-05	Nut, Center Lock 3/8-16

STT HYDRAULIC SYSTEM



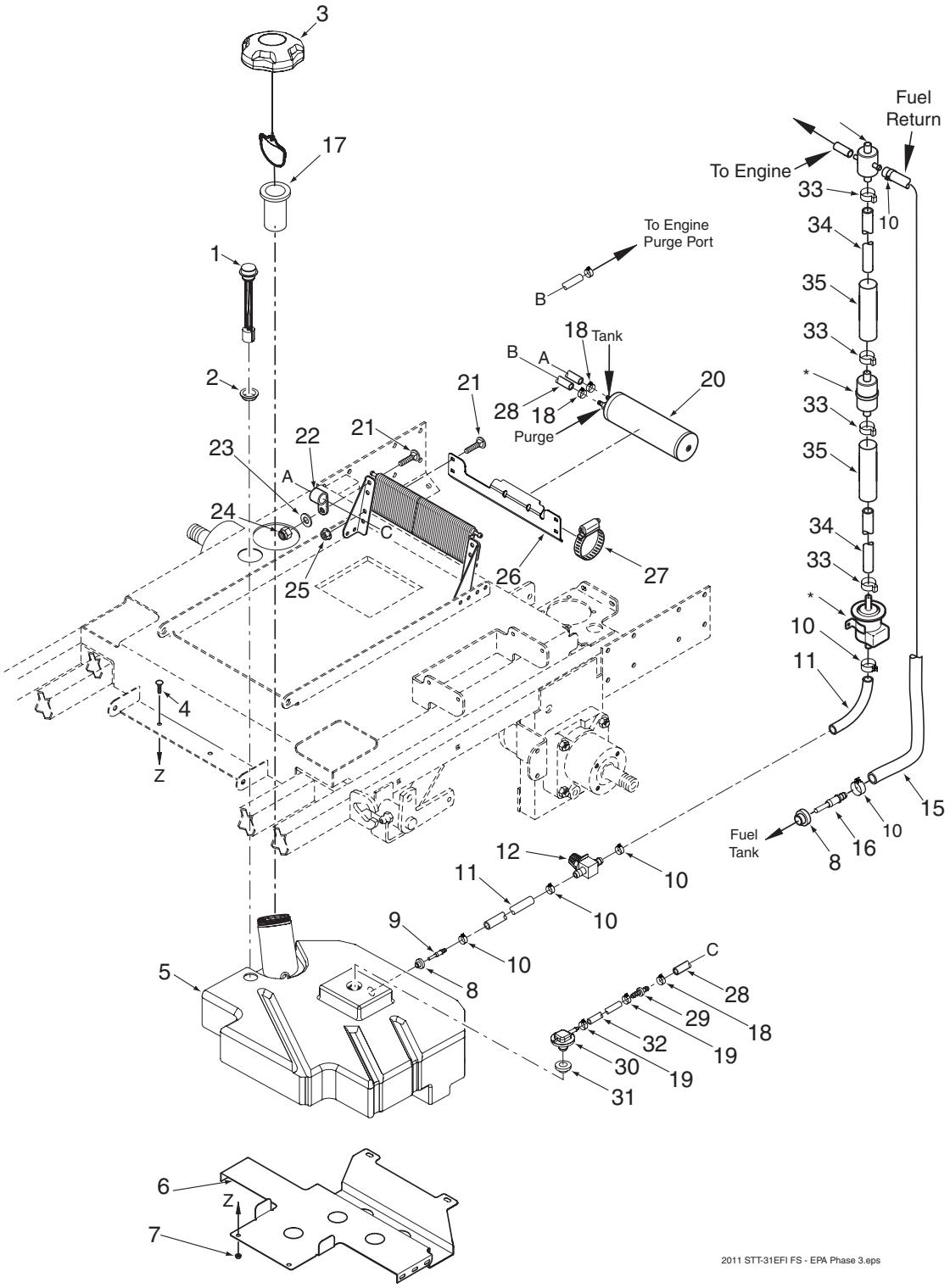
2011 STT HS.eps

STT HYDRAULIC SYSTEM

Ref. No.	Part No.	Description
1	04110-01	U-Nut 1/4-20
2	48136-13	Hose Clamp, 0.69" Dia.
3	04001-03	Bolt, Hex Head 1/4-20 x 2.0"
4	48811	Hose, 3/8" ID Pushlock - (order by inch)
5	48136-07	Clamp, Hose 1/2"
6	482266-01	Elbow, 90 Degree - 9/16" O-Ring x 3/8" Hose
7	482266-02	Elbow, 90 Degree - 3/4" O-Ring x 3/8" Hose
8	482417	Oil Filter Base
9	482606	Hose Assembly, 1/2" ID (Tank to Filter Base)
10	425437	Mounting Bracket - LH, Oil Cooler
	425438	Mounting Bracket - RH, Oil Cooler
11	04043-04	Flatwasher, 3/8" (.391 x .938 x .105") Grade 8
12	04021-09	Nut, Hex Elastic Stop 3/8-16
13	483100	Pump w/Fan, Right Hand
14	04001-32	Bolt, Hex Head, 3/8-16 x 1-1/4"
15	04021-09	Nut, Hex, Elastic Stop 3/8-16
16	483101	Pump w/Fan, Left Hand
17	481793	Block, Pump Control
18	04001-09	Bolt, Hex Head 5/16-18 x 1.0" Zinc
19	04019-03	Nut, Serrated Flange 5/16-18
20	48758	Oil Filter
21	482483	Tee, 3/4" O-Ring x JIC x 1/2" Hose
22	04021-08	Nut, Hex Elastic Stop 1/4-20
23	481164	Cap, Hydraulic Tank
24	481507	Insert, Filler Neck
25	48603-02	O-Ring
26	461451	Oil Reservoir Assembly (incl. 24, 27, 39)
27	482572	Elbow, 90 Degree .38" Hose
	482571	Bushing, .56" Dia. Viton
28	48136-13	Hose Clamp, 0.69" Dia.
29	48811	Hose, 3/8" ID, Pushlock (order by inch)
30	04010-10	Screw, Phillips Head, 1/4-20
31	48571-02	Cap
32	422694	Clamp Plate, Pump Control
33	48136-05	Clamp, Hose
34	48350-02	Elbow, 90 Degree, 1/2" x 1/2"
	48350-05	Elbow, 90 Degree, 5/8" x 1/2" (35BV Only)
35	48938-02	Bushing, 7/8"-14 JIC x 3/4"-16 O-Ring
36	482505	Cooler, Oil
37	04001-08	Bolt, Hex Head 5/16-18 x 3/4"
38	04003-02	Bolt, Carraige 1/4-20 x 3/4"
39	482574	Elbow, 90 Degree
	482573	Bushing, .78" Dia. Viton
40	423513	Strap, Hydraulic Tank

Ref. No.	Part No.	Description
41	423485	Support Bracket, Hydraulic Tank
42	484457	Hose Assembly, Pump
43	48572-04	Union, 3/4"-16 JIC x 3/4"-16 O-Ring
44	04001-59	Bolt, Hex Head, 1/4-20 x 1-1/4"
45	04030-02	Lockwasher, 1/4" Spring
46	04060-09	Roll Pin, Spring 3/16 x 3/4"

STT-31EFI FUEL SYSTEM - EPA PHASE 3
(models produced after 1/1/2011)



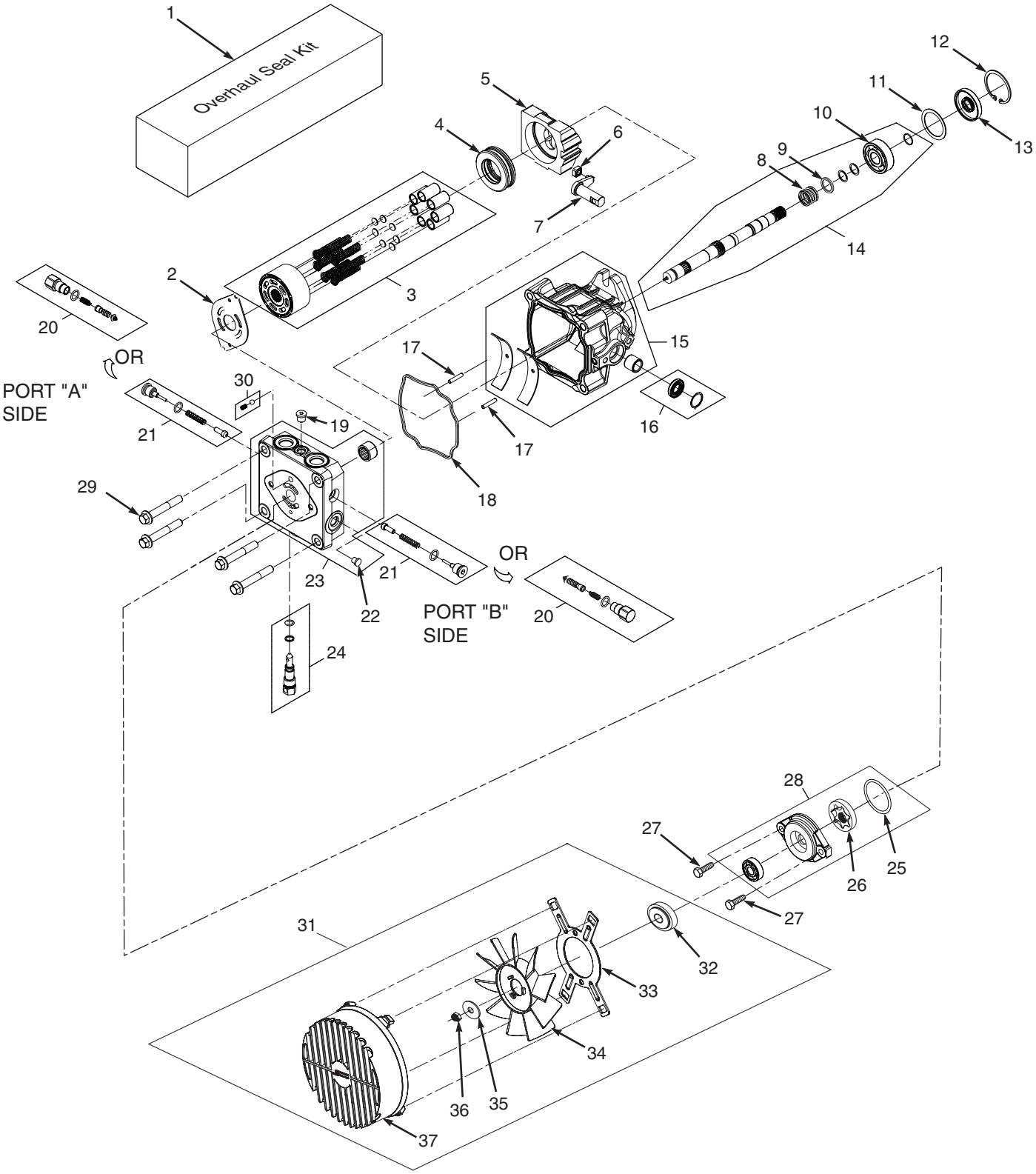
STT-31EFI FUEL SYSTEM - EPA PHASE 3
(models produced after 1/1/2011)

Ref. No.	Part No.	Description
1	484251	Fuel Gauge Assembly
2	484242	Seal, Fuel Gauge
3	484286	Fuel Cap, Tethered
4	04003-02	Bolt, Carriage 1/4-20 x 3/4”
5	462303	Fuel Tank Assembly - STT- (incl. # 1, 2, 8, 9, 30, 31)
	462304	Fuel Tank Assembly - STT-DFI / EFI (incl. # 1, 2, 8, 9, 16, 30, 31)
6	425517	Support Bracket, Fuel Tank
7	04019-02	Nut, 1/4-20 Serrated Flange
8	482571	Bushing, .56 Dia. Viton
9	483749	Hose Fitting
10	48059-04	Clamp, Fuel Hose 5/16” I.D. (29DFI)
11	483620	Fuel Hose, 5/16” I.D. Non-Perm (29DFI) - Order by Inch
12	481308	Valve, Fuel Shut-Off (29DFI)
13	48136-05	Clamp, .87” Max. Dia
14	483622	Fuel Hose, 1/2” I.D. Non-Perm - Order by Inch
15	483617	Fuel Hose, 1/4” I.D. Non-Perm (29DFI Fuel Return) - Order by Inch
16	482703	Return Fitting, Straight
17	484279-02	Tube, Fuel Tank Insert - 6”
18	48059-05	Clamp, Vapor Recovery Hose 3/16”
19	48059-02	Clamp, Fuel Hose 7/32 ID
20	484342	Carbon Canister
21	04003-02	Bolt, Carriage 1/4-20 x 3/4”
22	48030-22	Clamp
23	04040-03	Flatwasher, 1/4-.281 x .562 x .049
24	04021-08	Nut, 1/4-20 Elastic Stop
25	04019-02	Nut, 1/4-20 Serrated Flange
26	425496	Bracket, RH Canister Mounting
27	48136-17	Clamp
28	484345	Hose, 3/16 (order by inch)
29	484343-01	Mender, 1/4 x 3/16 w/.02 Hole
30	484284	Valve, Rollover
31	484284	Grommet, Viton
32	484347	Hose, 1/4” Vapor Recovery (order by inch)
33	483699	Fuel Clamp, 5/16” Oetiker
34	**483691	Fuel Hose, 5/16” Non-Perm (order by inch)
35	482839-01	Shield, Flexible
36	*	Regulator Assembly, Fuel Pressure (Kohler p/n 24 403 16)

* = Available through engine manufacturer only.

** = High Pressure Fuel Line. MUST only be replaced with the part number listed.

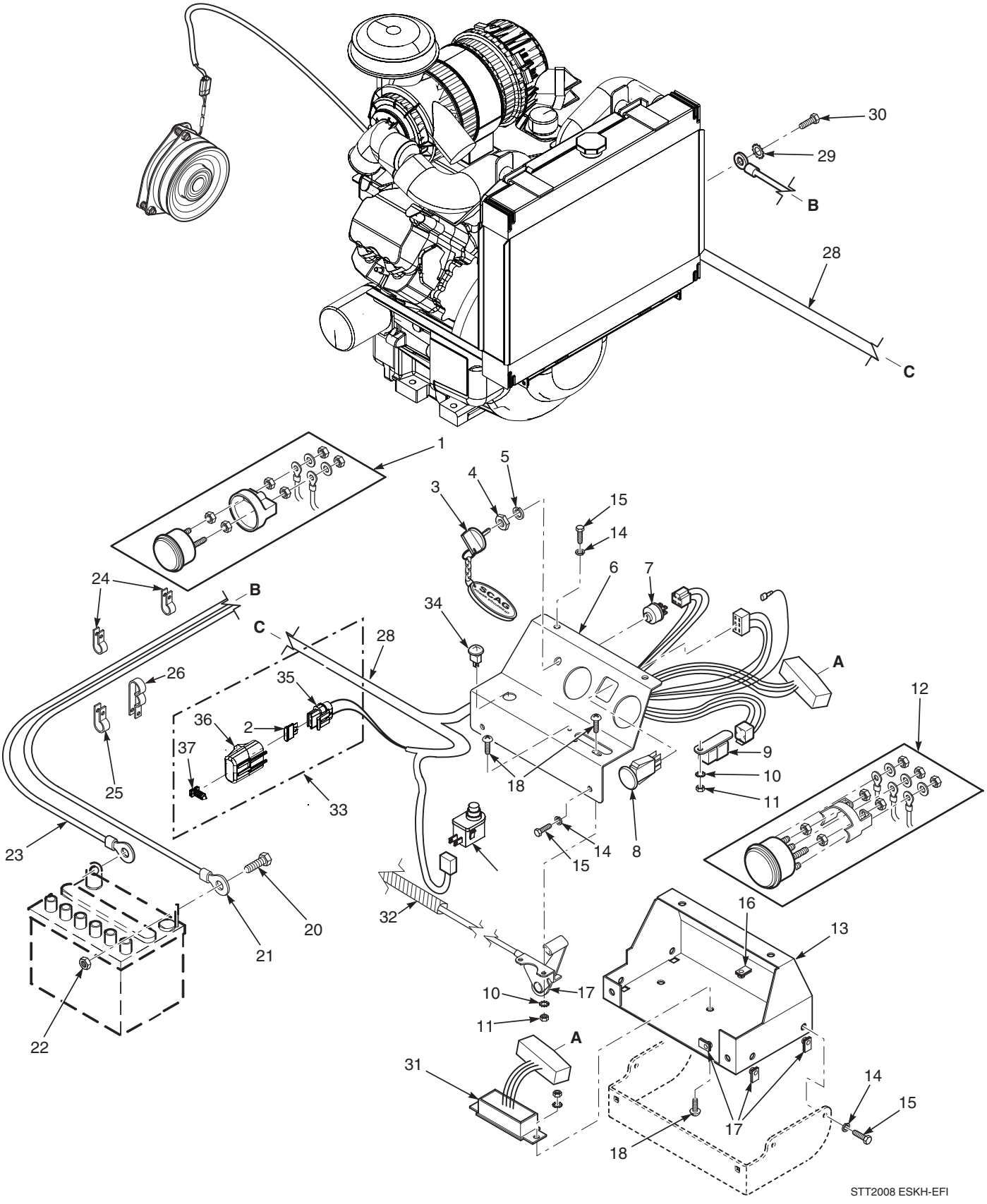
BDP-16A HYDRAULIC PUMP ASSEMBLY WITH COOLING FAN



BDP-16A HYDRAULIC PUMP ASSEMBLY WITH COOLING FAN

Ref. No.	Part No.	Description
1	HG70740	Overhaul Seal Kit
2	HG51455	Valve Plate
3	HG70735	Cylinder Block Kit - 16cc
4	HG51462	Thrust Ball Bearing Assembly
5	HG51436	Variable Swashplate
6	HG2000015	Slot Guide
7	HG2000014	Trunnion Arm
8	HG2000025	Block Spring
9	HG2000024	Block Thrust Washer
10	HG2000032	Shaft Ball Bearing
11	HG2000023	Spacer
12	HG2000038	Retaining Ring
13	HG51092	Seal
14	HG70578	Kit, Pump Shaft (keyed thru taper)
15	HG70738	Housing Kit
16	HG70739	Trunnion Seal Kit
17	HG50641	Pin
18	HG51437	O-Ring
19	HG9005110-7500	Straight Thread Plug
20	HG70743	Shock Valve Kit (.031” Orifice)
21	HG70742	Shock Valve Kit (.024” Orifice)
22	HG9005200-7500	Straight Thread Plug
23	HG70736	End Cap Kit
24	HG2513030	Bypass Valve Kit
25	HG9004100-1430	O-Ring
26	HG50406	Gerotor Assembly (.19 cu.in./rev.)
27	HG50173	Socket Head Cap Screw (M8 x 1.25-25mm)
28	HG70924	Charge Pump Kit (.19 STD. Splined)
29	HG51457	Hex Screw, Flng. Head (M10 x 1.50-65mm)
30	HG70402	Charge Relief Kit
31	HG71287	Fan Kit (Incl. 32, 33, 34, 35, 36, & 37)
32	HG51348	Hub
33	HG52016	Bracket, Shroud
34	HG52014	Fan
35	HG51348	Washer
36	HG44809	Nut
37	HG52059	Shroud

ELECTRICAL SYSTEM (31HP-EFI KOHLER)

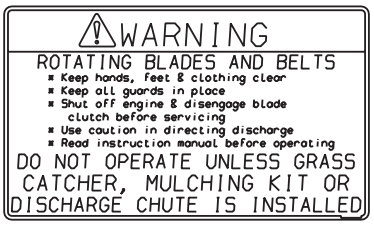


ELECTRICAL SYSTEM (31HP-EFI KOHLER)

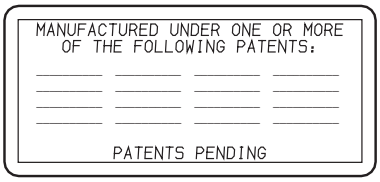
Ref. No.	Part No.	Description
1	481184	Volt Meter
2	48298	Fuse, 20 AMP
3	462069	Key, Assembly w/Fob
4	48017-04	Nut, Hex 5/8-32
5	48017-03	Lockwasher, 5/8” Internal
6	461916	Instrument Panel, Top w/Decals
7	48798	Key Switch
8	483957	Switch, PTO - 10 Amp
9	48788	Relay
10	04031-01	Lockwasher, #10 External Tooth
11	04020-01	Nut, Hex #10-32
12	481183	Water Temp. Gauge
13	451879	Base, Instrument Panel
14	04030-02	Lockwasher, 1/4”
15	04001-01	Bolt, Hex Hd. 1/4-20 x 3/4”
16	04110-01	U-Nut, 1/4-20
17	481662	Throttle Controls
18	04010-01	Screw, Phillips Washer Head #10-32 x 1/2”
19	481638	Switch, Interlock-Seat
20	04001-44	Bolt, Hex Hd. 1/4-20 x 1/2”
21	48029-06	Cable, Battery - Red
22	04020-02	Nut, Hex 1/4-20
23	48029-11	Cable, Battery - Black
24	48030-09	Clamp, Cable 1/2” I.D.
25	48136-05	Clamp, Cable 3/4” I.D.
26	48030-11	Clamp, Cable
27	481670	Sending Unit, Water Temp.
28	483688	Wire Harness, STT Liquid-Cooled Electronic Fuel Injection (EFI)
29	04031-03	Lockwasher, 5/16” External Tooth
30	04002-12	Bolt, Hex Hd. M8-1.25 x 20mm
31	483599	Electronic Module
32	481945-01	Heatshield, Flexible
33	483641	Single Fuse Assembly, Sealed (Incl. 2, 35, 36, & 37)
34	481182	Indicator Light, Check Engine
35	483629	Fuse Holder
36	483643	Cover, Sealed Single
37	482588	Clip, Wire

STT REPLACEMENT DECALS AND INFORMATION PLATES - ALL MODELS

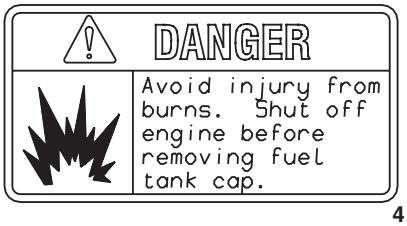
1


WARNING
ROTATING BLADES AND BELTS
* Keep hands, feet & clothing clear
* Keep all guards in place
* Shut off engine & disengage blade clutch before servicing
* Use caution in directing discharge
* Read instruction manual before operating
DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED

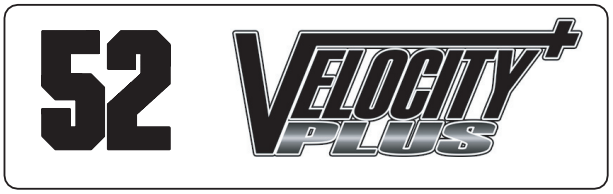
2



5



4



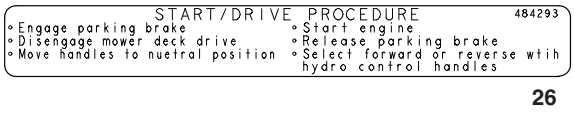
3

6

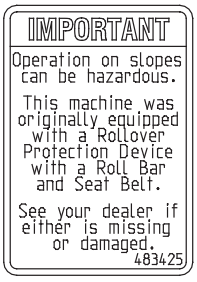
7

8

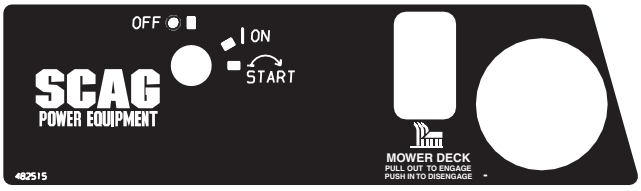
9



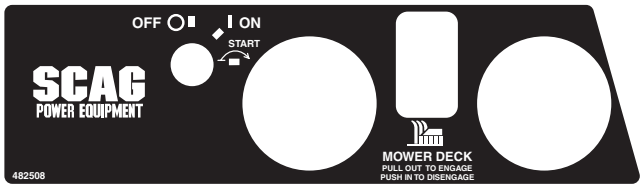
26


IMPORTANT
Operation on slopes can be hazardous.
This machine was originally equipped with a Rollover Protection Device with a Roll Bar and Seat Belt.
See your dealer if either is missing or damaged.
483425

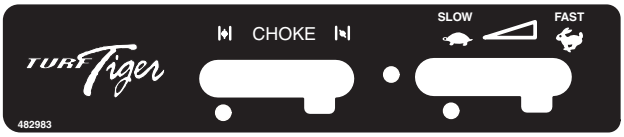
25



10

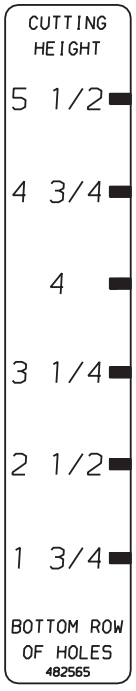


11

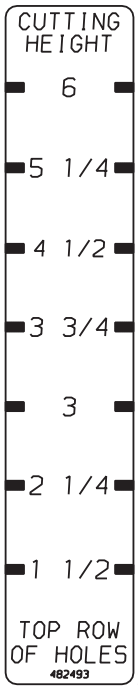


12

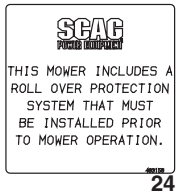
23



13



22

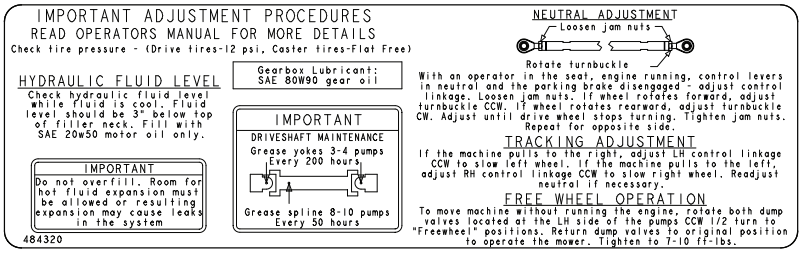


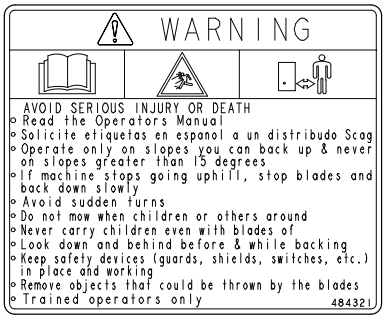
24

STT 2011 Decals 1

STT REPLACEMENT DECALS AND INFORMATION PLATES - ALL MODELS

Ref. No.	Part No.	Description
1	483192	Decal, Danger - Spinning Blades
2	483406	Decal, Warning - Rotating Blades
3	483200	Decal, 52 Velocity Plus
	483201	Decal, 61 Velocity Plus
	483693	Decal, 72 Velocity Plus
4	483397	Decal, Fuel Tank
5	483044	Decal, Patents
6	481568	Decal, Traction Control
7	481971	Decal, Heavy-Duty Commercial
8	48404	Decal, Metalcraft-Made In USA
9	483402	Decal, Belt Cover
10	482515	Decal, Instrument Panel - Upper (Air-Cooled)
11	482508	Decal, Instrument Panel - Upper (Liquid Cooled)
12	482983	Decal, Instrument Panel-Lower
13	482565	Decal, Cutting Height - Lower
14	484321	Decal, Fuel Tank Warning
15	484320	Decal, STT Adjustments
16	482577	Decal, Turf Tiger
17	483229	Decal, Turf Tiger
18	481664	Decal, Stripes-RH
19	481663	Decal, Stripes-LH
20	481694	Decal, Tiger
21	483405	Decal, Warning
22	482493	Decal, Cutting Height - Upper
23	482984	Decal, Instrument Panel - Lower (29DFI & 31EFI only)
24	483158	Decal, ROPS
25	483425	Decal, ROPS
26	484293	Decal, Start / Drive
27	483633	Decal, Seat Replacement
**	461982	Spanish Decal Kit, STT (not shown)
**	01411	DVD Video, Tips for Safe Operation of Your Scag Zero-Turn Mower (not shown)


IMPORTANT ADJUSTMENT PROCEDURES
READ OPERATORS MANUAL FOR MORE DETAILS
Check tire pressure - (Drive tires-12 psi, Caster tires-Flat Free)
HYDRAULIC FLUID LEVEL
Check hydraulic fluid level while fluid is cool. Fluid level should be 3" below top of filler neck. Fill with SAE 20w50 motor oil only.
IMPORTANT
Do not overfill. Room for hot fluid expansion must be allowed or resulting expansion may cause leaks in the system
Gearbox Lubricant: SAE 80W90 gear oil
IMPORTANT
DRIVESHAFT MAINTENANCE
Grease yokes 3-4 pumps Every 200 hours
Grease spline 8-10 pumps Every 50 hours
484320
NEUTRAL ADJUSTMENT
Loosen jam nuts
Rotate turnbuckle
With an operator in the seat, engine running, control levers in neutral and the parking brake disengaged - adjust control linkage. Loosen jam nuts. If wheel rotates forward, adjust turnbuckle CCW. If wheel rotates rearward, adjust turnbuckle CW. Adjust until drive wheel stops turning. Tighten jam nuts. Repeat for opposite side.
TRACKING ADJUSTMENT
If the machine pulls to the right, adjust LH control linkage CCW to slow left wheel. If the machine pulls to the left, adjust RH control linkage CCW to slow right wheel. Readjust neutral if necessary.
FREE WHEEL OPERATION
To move machine without running the engine, rotate both dump valves located at the LH side of the pumps CCW 1/2 turn to "Freewheel" positions. Return dump valves to original position to operate the mower. Tighten to 7-10 ft-lbs.
15

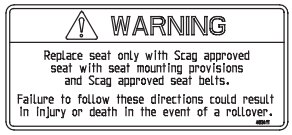

WARNING
AVOID SERIOUS INJURY OR DEATH
Read the Operators Manual
Solicite etiquetas en espanol a un distribudo Scag
Operate only on slopes you can back up & never on slopes greater than 15 degrees
If machine stops going uphill, stop blades and back down slowly
Avoid sudden turns
Do not mow when children or others around
Never carry children even with blades of
Look down and behind before & while backing
Keep safety devices (guards, shields, switches, etc.) in place and working
Remove objects that could be thrown by the blades
Trained operators only
484321
14

16

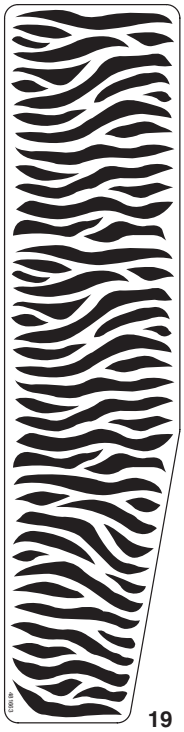
17

21

20

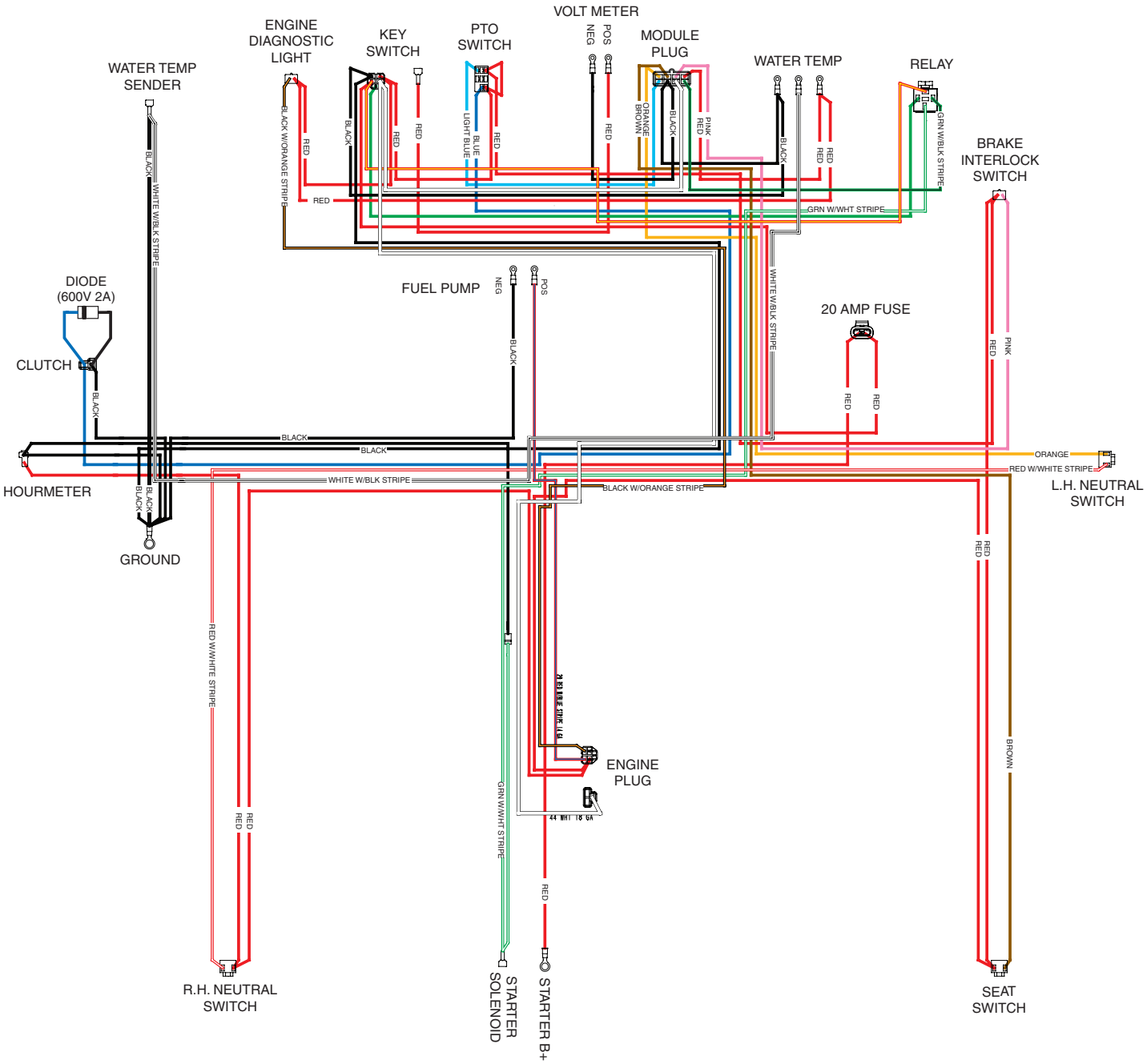

WARNING
Replace seat only with Scag approved seat with seat mounting provisions and Scag approved seat belts.
Failure to follow these directions could result in injury or death in the event of a rollover.
27

18


19

2011 STT Decals Page2

ELECTRICAL SCHEMATIC (KOHLER 31HP - EFI)



LIMITED WARRANTY - COMMERCIAL EQUIPMENT

Any part of the Scag commercial mower manufactured by Scag Power Equipment and found, in the reasonable judgment of Scag, to be defective in materials or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor during the periods specified below. This warranty is limited to the original purchaser and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.

This warranty is limited to the following specified periods from the date of the original retail purchase for defects in materials or workmanship:

- Wear items including drive belts, blades, hydraulic hoses and tires are warranted for ninety (90) days.
- Batteries are covered for ninety (90) days.
- Frame and structural components including oil reservoir and oil coolers are warranted for two (2) years (parts and labor) for commercial use or three (3) years / 500 hours (whichever comes first) (parts and labor) for non-commercial use.
- Cutter decks are warranted against cracking for a period of three (3) years. (parts and labor 1st and 2nd year; parts only 3rd year.) The repair or replacement of the cutter deck will be at the option of Scag Power Equipment. We reserve the right to request components for evaluation. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Engines and electric starters are covered by the engine manufacturer's warranty period.
- Major drive system components are warranted for two (2) years (parts and labor) for commercial use or three (3) year / 500 hour (whichever comes first) (parts and labor) for non-commercial use by Scag Power Equipment. (commercial and non-commercial warranty excludes fittings, hoses, drive belts). The repair or replacement of the hydraulic pump or hydraulic motor will be at the option of Scag Power Equipment. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Electric clutches have a Limited Warranty for two (2) years (parts and labor) for commercial use or three (3) year / 500 hours (whichever comes first) (parts and labor) for non-commercial use.
- Spindle assemblies have a Limited Warranty for three years (parts and labor 1st year and 2nd; parts only 3rd year).
- Any Scag product used for rental purposes is covered by a 90 day warranty.

The Scag mower, including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it to the owner after repair will be paid for by the owner. Scag's responsibility is limited to making the required repairs and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower. "Non-Commercial" use is defined as a single property owner, where the single property is the residence of the owner of the mower. If the mower is cutting more than the owners single property, it is deemed commercial use and the "non-commercial" warranty does not apply. Scag Power Equipment reserves the right to deny and / or void the non-commercial warranty if it believes it to be in commercial use.

This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual. The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Operator's Manual and Assembly Manual. The warranty does not cover any mower that has been altered or modified, changing performance or durability. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability.

Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured. All other implied warranties are limited in duration to the two (2) year for commercial use, three (3) years / 500 hours for non-commercial use or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate two year or ninety day warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

© 2010
Scag Power Equipment
Division of Metalcraft of Mayville, Inc.